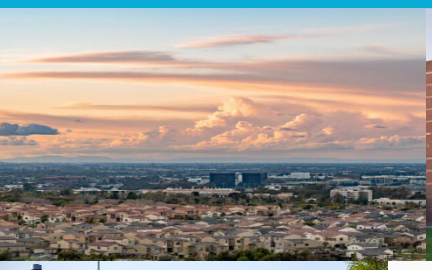
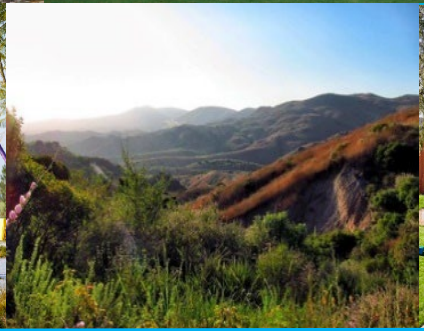
IRVINE
2045 GENERAL PLAN

DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT
March 2024

CITY OF IRVINE | 2045 GENERAL PLAN UPDATE





Draft
Program Environmental Impact Report for the City of Irvine 2045 General Plan Update
SCH #2023070463

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I: Proposed Conditions Infrastructure Report for Water, Sewer, Storm Drainage, and Water Quality

List of Abbreviations/Acronyms

°F	degrees Fahrenheit
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACM	asbestos-containing materials
ADT	average daily traffic
AELUP	Airport Environs Land Use Plan
AF	acre-feet
AFY	acre-feet per year
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMI	area median income
APSA	Aboveground Petroleum Storage Act
AQMP	air quality management plan
BAAQMD	Bay Area Air Quality Management District
Basin	South Coast Air Basin
Basin Plan	Santa Ana Regional Water Quality Control Board Basin Plan
BAU	business as usual
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMP	best management practice
BMR	Below Market Rate
BNSF	Burlington Northern Santa Fe
BP	Before Present
CAA	Clean Air Act
CAAP	Climate Action and Adaptation Plan
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
Cal EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire
CalARP	California Accidental Release Prevention
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
Cal-OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources Recycling and Recovery
CalSTA	California State Transportation Agency
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCE	Community Choice Energy

CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFD	Community Facilities District
CFR	Code of Federal Regulations
CH^4	Methane
CHL	Historical Landmarks
CHRI	California Historical Resources Inventory
City	City of Irvine
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CPHI	California Points of Historical Interest
CPUC	California Public Utilities Commission
CREATE	Chicago Rail Efficiency and Transportation Efficiency
CRHR	California Register of Historic Resources
CUPA	Certified Union Program Agency
CWA	Clean Water Act
CZARA	Coastal Zone Act Reauthorization Amendments
DAMP	Drainage Area Management Plan
dB	decibel
dB(A)	A-weighted decibel
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
EIR	environmental impact report
EO	Executive Order
EOP	Emergency Operations Plan
EPCA	Environmental Protection and Climate Action
EV	Electric vehicle
FAA	Federal Aviation Administration
FAR	Federal Air Regulations
FAR	floor area ratio
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FMMP	Farmland Mapping and Monitoring Program

FMP	Facilities Master Plan
FTA	Federal Transit Authority
FWCA	Fish and Wildlife Coordination Act
GHG	greenhouse gas
GIS	geographic information system
GWh	gigawatt-hours
GWP	global warming potential
HCD	California Department of Housing and Community Development
HCP	Habitat Conservation Plan
HMBEP	Hazardous Materials Business Emergency Plan
HRA	Health Risk Assessment
HVAC	heating, ventilation, and air conditioning
HWCL	Hazardous Waste Control Law
Hz	hertz
I-405	Interstate 405
I-5	Interstate 5
IBC	Irvine Business Complex
IGP	Industrial General Permit
in/sec	inch per second
IPCC	Intergovernmental Panel on Climate Change
IPD	Irvine Police Department
IRP	Integrated Resource Planning
IRWD	Irvine Ranch Water District
ITC	Irvine Transportation Center
IUSD	Irvine Unified School District
IVC	Irvine Valley College
LAWRP	Los Alisos Water Recycling Plant
LCP	Local Coastal Plan
LEED	Leadership in Energy and Environmental Design
L_{eq}	hourly equivalent sound level
LHMP	Local Hazard Mitigation Plan
LID	Low Impact Development
LIP	Local Implementation Plan
LOMR	Letter of Map Revision
LOS	Level of Service
L_{PW}	sound power
LRTP	Long Range Transportation Plan
LST	Localized Significance Threshold
MATES	Multiple Air Toxics Exposure Study
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MERV	minimum efficiency reporting value
mgd	million gallons per day
MLD	Most Likely Descendent

MMT CO_2E	million metric tons of carbon dioxide equivalent
MPAH	Master Plan of Arterial Highways
mpg	miles per gallon
mph	miles per hour
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MT CO_2E	metric tons of carbon dioxide equivalent
MWD	Metropolitan Water District of Southern California
MWDOC	Municipal Water District of Orange County
MWRP	Michelson Water Recycling Plant
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NAVD	North American Vertical Datum
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NITM	North Irvine Transportation Mitigation
NO_2	nitrogen dioxide
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRHR	National Register of Historic Resources
NTS	natural treatment system
OCCOG	Orange County Council of Governments
OCFA	Orange County Fire Authority
OCFCD	Orange County Flood Control District
OCHCA	Orange County Health Care Agency
OCP	Orange County Projections
OCPA	Orange County Power Authority
OCPL	Orange County Public Libraries
OCPW	Orange County Public Works Department
OCSD	Orange County Sanitation District
OCTA	Orange County Transportation Authority
OCWD	Orange County Water District
OEHHA	Office of Environmental Health Hazard Assessment
OEM	Office of Emergency Management
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	lead
PEIR	Program Environmental Impact Report

PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppm	parts per million
PPP	plans, programs, or policies
PPV	peak particle velocity
PRC	Public Resources Code
project	City of Irvine 2045 Focused General Plan Update
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act
REMEL	Reference Energy Mean Emission Level
RHNA	Regional Housing Needs Allocation
ROG	reactive organic gases
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SARA	Superfund Amendments and Reauthorization Act
SAUSD	Santa Ana Unified School District.
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SCH	State Clearinghouse
SCRRA	Southern California Railroad Authority
SCS	Sustainable Communities Strategy
SFHA	Special Flood Hazard Area
SGC	Strategic Growth Council
SGMA	Sustainable Groundwater Management Act
SHMA	Seismic Hazard Mapping Act
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act
SO_2	sulfur dioxide
SoCalGas	Southern California Gas Company
SOCCCD	South Orange County Community College District
SPCC	Spill Prevention, Control, and Countermeasure
SR-133	State Route 133
SR-241	State Route 241
SR-55	State Route 55
SR-73	State Route 73
SRA	Seismic Response Area
SVUSD	Saddleback Valley Unified School District
SWPPP	storm water pollution prevention plan

SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TCE	trichloroethylene
TDM	Transportation Demand Management
TMDL	total maximum daily load
TRIPS	Transportation for Irvine Residents with Disabilities
TUSD	Tustin Unified School District
U.S. EPA	United States Environmental Protection Agency
UCI	University of California, Irvine
USACE	United States Army Corps of Engineers
USC	United States Code
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
VdB	vibration decibels
VMT	vehicle miles traveled
VOC	volatile organic compounds
vph	vehicles per hour
WDR	Waste Discharge Requirement
WMA	Watershed Management Areas
WQMP	Water Quality Management Plan
WRMP	Water Resources Master Plan
WSA	Water Supply Assessment
ZEVTP	Zero-Emission Vehicles Transition Plan

Executive Summary

S.1 Introduction

This Program Environmental Impact Report (PEIR; State Clearinghouse House [SCH] No. 2023070463) has been prepared consistent with Section 15168 of the California Environmental Quality Act (CEQA) Guidelines, to address potential environmental effects associated with implementation of the City of Irvine (City) 2045 General Plan Update (project).

As described in Section 15168 of the CEQA Guidelines, program-level environmental review documents are appropriate when a project consists of a series of actions related to the issuance of rules, regulations, and other planning criteria. The project that is the subject of this PEIR consists of a comprehensive update to the existing General Plan and updates to the City's Land Use Map that will provide long-term policy documents guiding future development. The purpose of this program-level EIR is intended to inform decision-makers and the public of the potential significant environmental impacts of the project. This PEIR also considers the availability of mitigation measures as required by Section 15100 of the CEQA Guidelines to minimize the project's significant impacts and evaluates reasonable alternatives to the project that may reduce or avoid one or more significant environmental effects.

A brief overview of each PEIR chapter is provided below:

Executive Summary: Summarizes the PEIR by providing an overview of the project, analysis of the potentially significant environmental impacts that could result from the project, a list of mitigation measures identified to reduce or avoid such impacts, a review of the alternatives to the project, including the identification of an environmentally superior alternative to the project.

1.0 Introduction: Provides an overview of the applicable legal authority, introduces the purpose for the PEIR and explains the PEIR process and the intended uses of the PEIR.

2.0 Environmental Setting: Provides a description of the project's regional context, location, and existing physical characteristics and land use within the City. More detailed descriptions of the environmental context pertaining to specific environmental topics are provided in each section of Chapter 4.0, Environmental Analysis.

3.0 Project Description: Provides a detailed description of the project, including the purpose and objectives of the project and descriptions of each component of the project.

4.0 Environmental Analysis. Analyzes the environmental impacts of the project. Impacts are organized by the following topic areas:

- 4.1 Aesthetics
- 4.2 Air Quality
- 4.3 Biological Resources
- 4.4 Cultural and Tribal Cultural Resources

4.5 Geology/Soils
4.6 Greenhouse Gas Emissions
4.7 Hazards and Hazardous Materials
4.8 Hydrology/Water Quality
4.9 Land Use/Planning
4.10 Noise
4.11 Population and Housing
4.12 Public Services and Recreation
4.13 Transportation
4.14 Utilities/Service Systems
4.15 Wildfire

Each topic area respectively provides a contextual description of the project's environmental setting, significance criteria, methodology, and potential impacts (project-level and cumulative).

5.0 CEQA Mandated Analysis: Summarizes the project's significant and unavoidable environmental impacts, significant irreversible environmental changes, and growth-inducing impacts per State CEQA Guidelines Section 15065 Mandatory Findings of Significance.

6.0 Effects Found Not to be Significant: Identifies all the issues determined in the scoping and preliminary environmental review process to be not significant based on CEQA criteria, and briefly summarizes the basis for these determinations. These topics include Agricultural and Forestry Resources, Energy, and Mineral Resources.

7.0 Project Alternatives: Presents a reasonable range of alternatives to the project and includes the following:

- A discussion of the environmental impacts associated with each alternative,
- A comparison of the relative impacts of each alternative to those of the project,
- A discussion of the relationship of each alternative to the project's objectives, and
- Identification of the environmentally superior alternative.

8.0 References: Lists documents and other information sources relied upon in the preparation of the PEIR and identifies the persons and organizations that contributed to the preparation of the PEIR.

9.0 List of Preparers: Lists persons involved in the preparation of the PEIR.

Technical appendices, used as a basis for portions of the environmental analysis in the PEIR, have been summarized in the PEIR, and are included as attachments to the PEIR.

S.2 Project Overview

The City is located within the coastal foothill region of central Orange County in the state of California. Located approximately two miles inland from the Pacific Ocean and 40 miles south of the City of Los Angeles, the City is adjacent to the cities of Newport Beach, Lake Forest, Tustin, Santa Ana, Laguna Hills, Laguna Woods, Costa Mesa, Orange, and Laguna Beach, as well as unincorporated areas of Orange County. The City is generally bounded on the southwest by State Route 73 and on

the northeast by State Route 241. Interstate 5. Interstate 405 and State Route 133 cross through the central portion of the City, and multiple interstates and state routes traverse the City and provide connection to surrounding communities throughout the southern California region. Air travel is available at John Wayne Airport, located immediately adjacent to the Irvine Business Complex (IBC).

California state law requires each city and county to adopt a general plan for its physical development. A general plan is a key tool that addresses a variety of subject areas and expresses the community's development goals related to future land uses in the jurisdiction. Incorporated in 1971, the City adopted the first General Plan in December 1973. The City's General Plan was last comprehensively updated in 2000 and has been updated over the years to address necessary General Plan amendments. Since 2000, the City has continued to grow, as the community has matured and evolved. The purpose of the project is to provide long-term policy direction and communicate the vision, values, and goals for the City's physical development and overall quality of life.

In addition to providing long-term policy direction, the City is required to update the appropriate elements of the General Plan to accommodate the residential site inventory from the 6th Cycle Housing Element Update effective 2021 to 2029 (2021-2029 Housing Element) (adopted in May 2022). The 2021-2029 Housing Element Regional Housing Needs Assessment (RHNA) allocation for the City is 23,610 units. To ensure consistency with housing statute, including no-net loss and affirmatively furthering fair housing requirements, the 2021-2029 Housing Element identified adequate sites to accommodate 57,656 new residential units. To implement the 2021-2029 Housing Element, the project would adopt residential and residential mixed-use overlay zones that would allow greater flexibility for property owners and developers proposing residential development projects with affordable housing units. The project also includes updates to the Land Use Element to accommodate the proposed residential and residential mixed-use overlay zones, as well as updates to the Open Space and Conservation, Safety, Circulation (Mobility) and Noise elements to address statutory requirements. The City would also introduce a new Environmental Protection and Climate Action Element. Health and wellness will also be incorporated throughout the updated General Plan.

In addition to the RHNA residential component, the project includes additional non-residential land uses in the Irvine Great Park (Great Park). Phase 1 of the Great Park Framework Plan is in the baseline (no build condition) and the remaining land uses supporting the buildout of the Great Park Framework (200 acres in total) are included as part of the project. Phase 2 (or the remaining buildout of the Great Park) includes the following: a botanical garden, a veteran's memorial garden, a library, a discovery center, two museums, a 65-acre central park area, an accessory restaurant use, three aquatic center pools, an aquatic stadium, an all-wheel park, and pickleball courts.

The project also includes the extension of Ada roadway from its current terminus in the parking lot of the Irvine train station south of the Southern California Railroad Authority railroad tracks is proposed to extend north under the railroad tracks to meet the future Marine Way extension north of the railroad tracks. The Ada roadway extension between the Irvine train station and Marine Way provides multi-modal connectivity to support the residential uses.

As required by State CEQA Guidelines Section 15124(b), this PEIR also includes project objectives, as described in detail in Chapter 3.0, Project Description. These objectives support the implementation of the City's 2021-2029 Housing Element, assist the City in identifying key focus areas, implements

Citywide policy direction, implements the use of overlay zones to allow for greater residential and mixed-used residential development, implements Phase 2 of the Great Park Framework Plan, and extends the key segment of the Ada roadway between Irvine Train Station and Marine Way to better support residential uses and improve multi-modal connectivity.

S.3 PEIR Process

The Notice of Preparation (NOP) was circulated on July 21, 2023, and a scoping meeting was held virtually via video conferencing on Tuesday, August 1, 2023. The NOP circulated for analysis of the project, related letters received, and comments made during the scoping meeting are included as Appendix A of this PEIR. The Draft PEIR was circulated for public review for a period commencing on Friday, March 15, 2024, through Monday, April 29, 2024 (Public Review Period). The Draft PEIR and all related appendices have been made available for public review and inspection during the Public Review Period at City Hall, located at 1 Civic Center, Irvine, California, and on the City's webpage at:

- https://www.cityofirvine.org/community-development/current-environmental-reviews
- https://www.cityofirvine.org/community-development/events-irvine-2045

Copies of the Notice of Availability of the Draft PEIR are also available at the City's three public library branches at the following locations:

- Heritage Park, located at 14361 Yale Avenue
- University Park, located at 4512 Sandburg Way
- Katie Wheeler, located at 13109 Old Myford Road

S.4 Issues to be Resolved by the Decision-Making Body

Issues to be resolved by the decision-making body include how to reduce programmatic significant, unavoidable adverse environmental impacts associated with the project to the maximum extent feasible while achieving project objectives, through adoption of mitigation measures and/or alternatives to the project identified in this PEIR.

S.5 Project Alternatives

CEQA Guidelines Section 15126.6 requires that the EIR compare the effects of a "reasonable range of alternatives" to the effects of the project. The CEQA Guidelines further specify that the project alternatives selected should attain most of the basic project objectives and avoid or substantially lessen one or more significant effects of the project. The "range of alternatives" is governed by the "rule of reason," which requires the EIR to set forth only those project alternatives necessary to permit an informed and reasoned choice by the City, as the Lead Agency, and to foster meaningful public participation (CEQA Guidelines Section 15126.6[f]). CEQA generally defines "feasible" to mean an alternative that is capable of being accomplished in a successful manner within a reasonable period of time, while also taking into account economic, environmental, social, technological, and legal factors.

Project alternatives are evaluated in Chapter 7.0 of this PEIR. The evaluations analyze the ability of each project alternative to further reduce or avoid the significant environmental effects of the project. Each major environmental topic that was determined to have significant impacts has been given consideration in the alternatives analysis. This PEIR evaluates two project alternatives: the No Project Alternative (continuation of the existing General Plan) and the Reduced Alternative.

S.5.1 No Project Alternative

The No Project Alternative involves the continuation of existing land uses permitted under the City's current General Plan. The No Project Alternative would not identify additional residential sites necessary to meet the City's RHNA allocation, and thereby result in less intensive development within the City. The No Project Alternative would also not include improvements to the Great Park or the proposed Ada roadway extension. Nonetheless, future development under the No Project Alternative would occur consistent with the City's adopted General Plan land use plan and would be subject to implementation of the City's General Plan existing Mitigation Monitoring Requirements. The No Project Alternative would not implement the overlay zone proposed under the project, and therefore would not provide the densities needed to accommodate the region's housing needs or the required levels of affordability.

Under the No Project Alternative, State Housing Law and legislative requirements for implementation of the project's planned goals, objectives, policies and actions aimed at increasing housing (in particular affordable housing) in the City would not occur. This alternative would not satisfy the project objectives because implementation of the No Project Alternative would not facilitate the future development of sufficient residential units needed to the meet the City's RHNA allocation and would not satisfy applicable legislative mandates associated with the City's adopted 2021-2029 Housing Element.

S.5.2 Reduced Project Alternative

The City has also developed a Reduced Project Alternative that would accommodate the City's RHNA requirement and implement the 2021-2029 Housing Element utilizing a smaller number of residential sites. Proposed Great Park improvements and the extension of the Ada roadway would be proposed as part of the Reduced Project Alternative, similar to the project.

Compared to the 57,656 units proposed under the project, the Reduced Project Alternative would only propose 42,637 residential units, a difference of 15,019 units. While the number of residential units proposed under the Reduced Project Alternative would be less than the project, this alternative would still exceed the City's RHNA allocation of 23,610 units, and therefore would be consistent with applicable housing statute, including no-net loss and affirmatively furthering fair housing requirements. The proposed number of residential units within Focus Area 3 would remain unchanged under the Reduced Project Alternative. However, the Reduced Project Alternative would decrease the number of proposed residential units within Focus Area 1 from 15,000 units to 11,242 units and in Focus Area 2 from 26,607 units to 19,811 units.

S.5.3 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) requires an EIR to identify the environmentally superior alternative. If the No Project Alternative is the environmentally superior alternative, the EIR must identify an environmentally superior alternative from the other alternatives. The project itself may not be identified as the environmentally superior alternative.

The Reduced Project Alternative would be the environmentally superior alternative because it would incrementally reduce significant impacts associated with aesthetics, biological resources, cultural and tribal cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use, noise, population and housing, public services and recreation, utilities and services, and wildfire compared to the project. However, none of the potentially significant impacts of the project would be completely avoided.

Compared to the 57,656 units proposed under the project, the Reduced Project Alternative would only propose 42,637 residential units, a difference of 15,019 units. While the number of residential units proposed under the Reduced Project Alternative would be less than the project, this alternative would still exceed the City's RHNA allocation of 23,610 units, and therefore would be consistent with applicable housing statute, including no-net loss and affirmatively furthering fair housing requirements. Therefore, the Reduced Project Alternative would meet all the project's objectives.

S.6 Summary Table

Table S-1 summarizes the results of the environmental analysis including the potentially significant environmental impacts of the project and proposed mitigation measures to reduce or avoid these impacts. Impacts and mitigation measures are organized by issue in Chapter 4.0, Environmental Analysis.

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
4.1 Aesthetics				
Would the project have a substantial adverse effect on a scenic vista?	Less than Significant	Although future development and redevelopment would vary in building height, mass, form, and intensity, projects would generally be required to meet a minimum residential density of 50 dwelling units per acre, similar to the average density of recently approved projects within the three focus areas. Furthermore, by concentrating most of the development within the three focus areas, the project would ensure that buildout under the General Plan would not block public views of scenic vistas that are primarily located in undeveloped and open space areas of the City. Similarly, nonresidential growth within the Great Park area and the extension of Ada roadway would occur within areas that are not afforded scenic views of natural resources in the City. Future projects would also be required to comply with PPPs AES-2 and AES-5, which outline development standards guiding the design and character of structures, to further ensure that projects would not impact scenic vistas. Therefore, impacts related to obstruction of a scenic vista would be less than significant.	• PPP-AES-2 Compliance with Municipal Code Section 5-9-517 Special Nonresidential Building Provisions • PPP-AES-5 Compliance with Zoning Ordinance Chapter 3-37 Zoning District Land Use Regulations and Development Standards	Less than Significant
Would the project substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a State Scenic Highway?	Less than Significant	There are no state-designated or eligible scenic highways within the City. The closest eligible State Scenic Highway is a segment of I-405 in Long Beach, approximately 16 miles northwest of the City. This segment of scenic highway does not have distinct views of the Focus Areas. Therefore, future development under the project would not be located within the viewshed of any designated or eligible state scenic highways.	None.	Less than Significant
In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage points)? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Less than Significant	The project would introduce additional development throughout the City using a residential and residential mixed-use overlay that would allow greater flexibility for property owners and developers. The overlay would promote higher density residential and residential mixed-use in three focus areas. Future development would be consistent with the visual quality and character of these focus areas, given their existing urban character. Additionally, some of underutilized sites within these focus areas consist of aging structures with poor visual quality, and redevelopment of these structures would result in new residential structures developed consistent with the visual requirements of existing PPPs (PPPs AES-1 through AES-8). Furthermore, development of vacant and underutilized sites would be required to adhere to the land use plans that provide supplemental development regulations of	• PPP-AES-1 Compliance with FAA requirements regarding the marking of or lighting of structures exceeding an overall height of 200 feet above ground level. • PPP-AES-2 Compliance with Municipal Code Section 5-9-517 Special Nonresidential Building Provisions • PPP-AES-3 Compliance with Zoning Ordinance Chapter 3-16 Lighting • PPP-AES-4 Compliance with Zoning Ordinance Chapter 3-15 Landscaping Standards • PPP-AES-5 Compliance with Zoning Ordinance Chapter 3-37 Zoning District Land Use Regulations and Development Standards • PPP-AES-6 Compliance with Zoning Ordinance Chapter 5-4 Hillside Overlay District • PPP-AES-7 Compliance with Zoning Ordinance Division 7 Signs	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		those sites, as well as the requirements of the Municipal Code and Zoning Ordinance. Development outside of the three focus areas is expected to occur on an incremental basis and would be required to occur in compliance with the City's Municipal Code and Zoning Ordinance (PPPs AES-1 through 8). Compliance with the City's code and site-specific review of the design of future projects would ensure their compatibility with the aesthetic character of the area in which they are proposed. Therefore, future development facilitated by the project would not result in the degradation of the existing scenic quality of the City, and impacts would be less than significant.	• PPP-AES-8 Compliance with Standard Condition 3.6 Site Lighting Requirements	
Would the project create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	Less than Significant	New development and increased density in the three focus areas will introduce new sources of light and glare associated with an increase in buildings and vehicles in the areas. However, each of the three focus areas is primarily characterized by an urbanized environment with existing light and glare sources. Therefore, future development would introduce similar sources of light to these areas. Compliance with existing City regulations related to lighting (PPPs AES-1, AES-2, and AES-8) would ensure that all project-related impacts with respect to light and glare would be less than significant.	• PPP-AES-1 Compliance with FAA requirements regarding the marking of or lighting of structures exceeding an overall height of 200 feet above ground level. • PPP-AES-3 Compliance with Zoning Ordinance Chapter 3-16 Lighting • PPP-AES-8 Compliance with Standard Condition 3.6 Site Lighting Requirements	Less than Significant
4.2 Air Quality				
Would the project conflict with or obstruct implementation of the applicable air quality plan?	Potentially Significant	Future development under the project would accommodate increases in population based on the Southern California Association of Governments' (SCAG's) demographic projections, and would therefore not induce unplanned growth. Buildout of the project would result in a decrease in emissions when compared to buildout of the City's adopted General Plan because it would . Therefore, buildout of the project would not exceed the assumptions used to develop the AQMP. The South Coast Air Basin is designated as in nonattainment for 8-hour ozone and 2.5-micron particulate matter ($PM_{2.5}$) standards. Because the proposed General Plan Update involves long-term growth associated with buildout of the City, cumulative emissions generated from operation of individual development projects would exceed the South Coast Air Quality Management District (SCAQMD) regional and localized thresholds. Future development would be required to adhere to the requirements of California Code of Regulations, Title 13, Section 2449 to reduce nonessential	• PPP 2-1 Construction activities will be conducted in compliance with California Code of Regulations, Title 13, Section 2449, which requires that nonessential idling of construction equipment be restricted to five minutes or less. • PPP 2-2 Construction activities will be conducted in compliance with any applicable SCAQMD rules and regulations, including but not limited to: o Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance. o Rule 402, Nuisance, which states that a project shall not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."	Significant and Unavoidable

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		idling (PPP 2-1), the construction requirements of SCAQMD rules and regulations (PPP 2-2), and the requirements of the City's grading code (PPP 2-3). Despite adherence to these policies and compliance with Standard Conditions and PPPs, buildout of the project could contribute to an increase in frequency or severity of air quality violations and delay attainment of the AAQS or interim emission reductions in the AQMP, and emissions generated from buildout would result in a significant air quality impact. Therefore, the General Plan Update would not be consistent with the AQMP under the second criterion and mitigation requiring project-specific air quality analyses is required.	o Rule 1113, which limits the volatile organic compound content of architectural coatings. o Rule 1466, Soil Disturbance. Projects that involve earth-moving activities of more than 50 cubic yards of soil with applicable toxic air contaminants are subject to this rule. • PPP 2-3: Compliance with the City of Irvine's Grading Code. • PPP 2-4: Compliance with the City of Irvine's Municipal Code guidance to reduce air pollution from motor vehicles. **AQ-1:** Applications for future development, wherein the Director of Community Development or their designee has determined a potential for air quality impacts associated with construction, shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City for review and approval. The Director of Community Development or their designee shall make this determination based on the size of the project, whether the project would require a transportation impact analysis, or other criteria. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (SCAQMD) methodology for assessing air quality impacts. The City shall require that applicants for new development projects with the potential to exceed the SCAQMD's adopted thresholds of significance to incorporate the measures listed below to reduce air pollutant emissions during construction activities. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City. Mitigation measures to reduce construction-related emissions could include, but are not limited to: • Require fugitive-dust control measures that exceed SCAQMD's Rule 403 requirements, such as: o Use of nontoxic soil stabilizers to reduce wind erosion. o Apply water every four hours to active soil-disturbing activities. o Tarp and/or maintain a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials. • Use construction equipment rated by the United States Environmental Protection Agency as having Tier 3 (model	

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
			year 2006 or newer) or Tier 4 (model year 2008 or newer) emission limits, applicable for engines between 50 and 750 horsepower. • Ensure that construction equipment is properly serviced and maintained to the manufacturer's standards. • Limit nonessential idling of construction equipment to no more than five consecutive minutes. • Limit on-site vehicle travel speeds on unpaved roads to 15 miles per hour. • Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area. • Use Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufactures can be found on the SCAQMD's website.	
Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	**Construction:** Potentially Significant **Operation:** Potentially Significant	**Construction:** Approval of the project would not specifically permit the construction of an individual project, and no specific development details are available at this program level of analysis. Future development would be required to implement construction Best Management Practices (BMPs) at all construction sites consistent with SCAQMD rules and regulations. Future construction activities would also be required to comply with PPP 2-1, which outlines compliance with California Code of Regulations, Title 13, Section 2449, which itself requires that nonessential idling of construction equipment be restricted to five minutes or less. Future construction activities would also be conducted in compliance with any applicable SCAQMD rules and regulations, as outlined in PPP 2-2. While individual site-specific projects may not exceed the SCAQMD regional significance thresholds, the scale and extent of construction activities associated with buildout of the City may result in some instances where future development would exceed the relevant SCAQMD thresholds. Therefore, construction-related regional air quality impacts would be potentially significant and mitigation requiring project-specific air quality analyses would be required.	• PPP 2-1 Construction activities will be conducted in compliance with California Code of Regulations, Title 13, Section 2449, which requires that nonessential idling of construction equipment be restricted to five minutes or less. • PPP 2-2 Construction activities will be conducted in compliance with any applicable SCAQMD rules and regulations, including but not limited to: o Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance. o Rule 402, Nuisance, which states that a project shall not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property." o Rule 1113, which limits the volatile organic compound content of architectural coatings. o Rule 1466, Soil Disturbance. Projects that involve earth-moving activities of more than 50 cubic yards of soil with applicable toxic air contaminants are subject to this rule. • PPP 2-3: Compliance with the City of Irvine's Grading Code. • PPP 2-4: Compliance with the City of Irvine's Municipal Code guidance to reduce air pollution from motor vehicles.	**Construction:** Significant and Unavoidable **Operation:** Significant and Unavoidable

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		Operations: Buildout of the project would result in a decrease in emissions compared to buildout of the City's adopted General Plan. Most of the future residential growth would occur in the three focus areas that are most suited for new growth and development as they are located near existing job centers, which would reduce VMT and associated vehicle emissions. While individual site-specific projects may not exceed the SCAQMD regional significance thresholds, the scale and extent of emissions associated with buildout of the project may result in some instances where future development would exceed the relevant SCAQMD thresholds. Therefore, operational regional air quality impacts would be potentially significant, and mitigation requiring project-specific air quality analyses would be required.	See AQ-1 above. **AQ-2**: For individual projects that may exceed the daily operational emissions thresholds established by the SCAQMD, the owner/permitee shall conduct an analysis of the project's operational air quality impacts using the latest available CalEEMod mode, or other analytical method determined in conjunction with the City. If such analyses identify potentially significant regional or local air quality impacts, project-level mitigation and/or project design features would be required to reduce operational impacts to less than significant. Mitigation to reduce operational impacts depends on the specific project, but may include measures such as, but not limited to: • Demonstrate net zero energy expenditure. • Implementation of transportation demand management measures. • Prohibit the installation of woodstoves, hearths, and fireplaces in new construction facilitated by the General Plan Update. • Expand and facilitate completion of planned networks of active transportation infrastructure. • Implement electric vehicle charging infrastructure beyond requirements set forth in the 2022 CALGreen mandatory measures, such as Tier 2 voluntary measures set forth in 2022 CALGreen (or future more stringent) standards. • Implement traffic demand measures, such as unbundling parking fees from rent/lease options, encouraging/developing a ride-share program for the community, and provide car/bike sharing services, that will reduce daily individual car usage and reduce project VMT.	
Would the project expose sensitive receptors to substantial pollutant concentrations?	Potentially Significant	**Localized Carbon Monoxide Hot Spots** New development adjacent to heavily traveled streets or intersections would not expose sensitive receptors to substantial pollutant concentrations associated with CO hot spots, and impacts would be less than significant. The Level of Service Traffic Study determined that roadway segment and intersection volumes would not exceed 100,000 average daily trips (Iteris 2024). Consequently, the project would not produce the volume of traffic required to generate a CO hot spot either in the context	• PPP 2-1 Construction activities will be conducted in compliance with California Code of Regulations, Title 13, Section 2449, which requires that nonessential idling of construction equipment be restricted to five minutes or less. • PPP 2-2 Construction activities will be conducted in compliance with any applicable SCAQMD rules and regulations, including but not limited to: o Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance.	Significant and Unavoidable

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		of the 2003 Los Angeles study or BAAQMD CO threshold considerations. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations associated with CO hot spots, and impacts would be less than significant. **Toxic Air Emissions** <u>Construction</u> Construction of future development and associated infrastructure implemented under the project would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Such emissions would have the potential to exceed the SCAQMD's LST thresholds. Additionally, construction of future projects would adhere to the requirements of California Code of Regulations, Title 13, Section 2449 to reduce nonessential idling (PPP 2-1), the construction requirements of SCAQMD rules and regulations (PPP 2-2), and the requirements of the City's grading code (PPP 2-3). Considering the highly dispersive nature of DPM, and the fact that construction activities would occur intermittently and at various locations over the lifetime of project buildout, DPM generated by construction is not expected to create conditions where the probability is greater than 10 in 1 million of developing cancer for the Maximally Exposed Individual, or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than 1 for the Maximally Exposed Individual. Therefore, the project would not exceed the SCAQMD LST thresholds or expose sensitive receptors to toxic air emissions during construction of future development within the City, and impacts would be less than significant. <u>Stationary Sources</u> The project would not result in the construction and operation of a stationary source of TACs. Although future site-specific development under the project could be located near existing types of facilities, emissions of TACs are regulated by SCAQMD through permitting and monitoring requirements. Therefore, adherence with this regulatory framework would ensure that future development would not expose sensitive receptors to TACs associated with stationary sources within the City, and impacts would be less than significant.	○ Rule 402, Nuisance, which states that a project shall not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property." ○ Rule 1113, which limits the volatile organic compound content of architectural coatings. ○ Rule 1466, Soil Disturbance. Projects that involve earth-moving activities of more than 50 cubic yards of soil with applicable toxic air contaminants are subject to this rule. • PPP 2-3: Compliance with the City of Irvine's Grading Code. • PPP 2-4: Compliance with the City of Irvine's Municipal Code guidance to reduce air pollution from motor vehicles. **AQ-3**: For individual projects that may site new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles/day, the applicant shall prepare a Health Risk Assessment (HRA) evaluating the potential for sensitive receptors to be exposed to TACs, which shall be required for such individual projects. The HRA shall be prepared in accordance with the policies and procedures of the state Office of Environmental Health Hazard Assessment (OEHHA) and the South Coast Air Quality Management District (SCAQMD). If the HRA shows that the incremental cancer risk and/or noncancer hazard index exceed the respective thresholds, as established by the SQAQMD at the time a project is considered (i.e., 10 in one million cancer risk and 1 hazard index), the project applicant will be required to identify and demonstrate that best available control technologies to reduce substantial exposure of sensitive receptors to TACs. Examples may include, but are not limited to, air intakes located away from high-volume roadways and/or truck loading zones unless it can be demonstrated that these are operational limitations and/or heating, ventilation, and air conditioning (HVAC) systems provided with appropriately sized maximum efficiency rating value (MERV) filters. Mitigation measures identified in the HRA shall be incorporated into the site development plan as a component of the proposed project. Air intake and MERV filter requirements shall be noted on all	

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		<u>Mobile Sources</u> Portions of the focus areas are located adjacent to these highways and freeways. Although the project itself would not expose sensitive receptors to substantial pollutant concentrations associated with mobile source emissions, the scale and extent of exposure of future development under the amended general plan to mobile sources of TACs cannot be known at this time, and impacts would be potentially significant. Mitigation requiring project- and site-specific Health Risk Assessments (HRAs) would be required.	building plans submitted to the City of Irvine Community Development Department.	
Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than Significant	Construction of future development would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant, but may involve the use of standard construction equipment that could emanate temporary odors, such as those associated with diesel-powered equipment. These odors would be temporary, intermittent, and not expected to affect a substantial number of people. Future site-specific development under the project would include residential uses, as well as the extension of Ada roadway, and non-residential uses including a botanical garden, a veteran's memorial garden, a library, a discovery center, two museums, a 65-acre central park area, an accessory restaurant use, an aquatic center, an all-wheel park, and pickleball courts, that are generally not a source of objectionable odors. Additionally, with respect to all development under the project, nuisance odors are regulated under SCAQMD Rule 402, which requires abatement of any nuisance generating a verified odor complaint. Therefore, project operation would not result in odors affecting a substantial number of people, and impacts would be less than significant.	• PPP AQ-1 Construction activities will be conducted in compliance with California Code of Regulations, Title 13, Section 2449, which requires that nonessential idling of construction equipment be restricted to five minutes or less. • PPP AQ-2 Construction activities will be conducted in compliance with any applicable SCAQMD rules and regulations, including but not limited to: o Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance. o Rule 402, Nuisance, which states that a project shall not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property." o Rule 1113, which limits the volatile organic compound content of architectural coatings. o Rule 1466, Soil Disturbance. Projects that involve earth-moving activities of more than 50 cubic yards of soil with applicable toxic air contaminants are subject to this rule.	Less than Significant
4.3 Biological Resources				
Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or	Potentially Significant	Buildout of the project would have the potential to directly and/or indirectly impact candidate, sensitive, or special status species. Potential direct impacts would include removal of habitat through future development and redevelopment projects that support sensitive species. While future development would largely occur within the focus areas on developed and/or disturbed land and	• PPP BIO-4: Compliance with the MBTA • PPP BIO-6: Compliance with CESA **BIO-1:** Prior to project approvals, applicants for future development projects with the potential to disturb sensitive biological resources shall include a biological resources survey. The survey	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
regulations, or by the CDFW or USFWS?		avoid known occurrences of sensitive species, future development may occur throughout the City, including on vacant parcels with habitat types that may support sensitive species. Additionally, future development may result in indirect impacts to sensitive plant or wildlife species due to excess noise, lighting, or runoff generated during construction of projects both within and outside the focus areas. Furthermore, project construction could result in direct impacts to nesting or migratory birds from the removal of mature trees and/or native vegetation within project areas during the typical bird breeding season (January 15 to September 15). All future development would be required to demonstrate compliance with the California Endangered Species Act (CESA) (PPP BIO-6), as well as the requirements of the MBTA for the protection of nesting birds, especially during the breeding season (January 15–September 15). However, at a program level of analysis, it cannot be known with certainty that impacts to sensitive species could be fully avoided, which would be considered a potentially significant impact, and mitigation would be required.	shall be conducted by a qualified biologist. The biological resources survey shall include, but not be limited to: • A search of available literature and biological databases, such as CNDDB to determine sensitive biological resources that have been reported from the proposed project vicinity. • Mapping vegetation communities on the proposed project site. • A general assessment and mapping of all potential jurisdictional resources (wetlands and riparian habitats). • Evaluating wildlife movement corridors in the vicinity of the proposed project site. **BIO-2:** If the proposed development project site supports vegetation communities that may provide habitat for special status plant or animal species, a focused habitat assessment shall be conducted by a qualified biologist to determine the potential for special status plant and/or animal species to occur within or adjacent to the proposed development project area. **BIO-3:** If one or more special status species has the potential to occur within the proposed development project area, focused species surveys shall be conducted to determine the presence/absence of these species to adequately evaluate potential direct and/or indirect impacts to these species. **BIO-4:** If construction activities are not initiated immediately after focused surveys have been completed, additional pre-construction special status species surveys may be required to assure impacts are avoided or minimized to the extent feasible. If pre-construction activities are required, a qualified biologist would perform these surveys as required for each special status species that is known to occur or has a potential to occur within or adjacent to the proposed development project area. **BIO-5:** The results of the biological survey shall be presented in a biological survey letter report for proposed development projects with no significant impacts, or in a biological technical report for proposed development projects with significant	

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
			impacts that require mitigation to reduce the impacts to below a level of significant. **BIO-6:** If sensitive biological resources are identified within or adjacent to the proposed development project area, the construction limits shall be clearly flagged to ensure impacts to sensitive biological resources are avoided or minimized to the extent feasible. Prior to implementing construction activities, a qualified biologist shall verify that the flagging clearly delineates the construction limits and that sensitive resources to be avoided. **BIO-7:** If sensitive biological resources are known to occur within or adjacent to the proposed development project area, a project-specific contractor training program shall be developed and implemented to educate project contractors on the sensitive biological resources within and adjacent to the proposed development project area and measures being implemented to avoid and/or minimize impacts to these species. A qualified biologist shall develop and implement the contractor training program. **BIO-8:** If sensitive biological resources are present within or adjacent to the proposed development project area and impacts may occur from implementation of construction activities, a qualified biological monitor may be required during a portion or all of the construction activities to ensure impacts to the sensitive biological resources are avoided or minimized to the extent feasible. The specific biological monitoring requirements shall be evaluated on a project-by-project basis. The qualified biological monitor shall be approved by the City on a project-by-project basis based on applicable experience with the sensitive biological resources that may be impacted by the proposed development project activities.	
Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by CDFW or USFWS?	Potentially Significant	The project has been designed to minimize impacts to riparian and sensitive habitats by primarily focusing future development and redevelopment within the proposed Focus Areas. However, future development may occur throughout the City as part of the project, including on vacant parcels with riparian and sensitive habitats. These vacant parcels may possess riparian and other sensitive habitats. Future development would be required to demonstrate compliance with the Orange County Central and	• PPP BIO-5: Compliance with the Orange County Central and Coastal NCCP/HCP • PPP BIO-6: Compliance with CESA • PPP BIO-9: Compliance with Municipal Code Title 5 (Planning), Division 7 (Sustainability in Landscaping), Chapter 4 (Urban Forestry) • PPP BIO-10: Compliance with Standard Condition 2.20 (Wildlife Habitat Clearance)	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		Coastal NCCP/HCP (PPP BIO-5) and CESA (PPP BIO-6), as applicable. However, at a program level of analysis, it cannot be known with certainty that impacts to riparian and sensitive habitats could be fully avoided, which would be considered a potentially significant impact and would require mitigation.	**BIO-9:** Prior to project approval, if a proposed project has the potential to affect riparian and sensitive habitats and/or jurisdictional resources, a qualified biologist conduct a jurisdictional delineation following the methods outlined in the 1987 Corps Wetland Delineation Manual (USACE 1987) and the Regional Supplement to the Corps Wetland Delineation Manual: Arid West Region (USACE 2008) to map the extent of wetlands and non-wetland waters, determine jurisdiction, and assess potential impacts. The results of the delineation shall be presented in a wetland delineation letter report and shall be incorporated into the California Environmental Quality Act document(s) required for approval and permitting of the proposed project. **BIO-10:** If the results of mitigation measure BIO-9 above determine that a proposed project would impact riparian and sensitive habitats and/or jurisdictional features, permits and authorizations shall be obtained from the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and/or Regional Water Quality Control Board prior to project approval. The regulatory agency authorization(s) would include specific avoidance, minimization, and mitigation measures for impacts to riparian and sensitive habitats and/or jurisdictional resources, which may include monetary contributions to a mitigation bank or habitat creation, restoration, and/or enhancement.	

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
Would the project have a have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Potentially Significant	The project has been designed to minimize impacts to jurisdictional wetlands and waters by primarily focusing future development and redevelopment within the proposed Focus Areas. Therefore, focusing development and redevelopment within these areas that consist primarily of developed and/or disturbed land would minimize adverse impacts to jurisdictional wetlands and waters. However, future development may occur throughout the City, including on vacant parcels with jurisdictional wetlands and waters. Future development would be required to demonstrate compliance with Section 404 of the Clean Water Act (CWA; PPP BIO-1), Section 401 of the CWA (PPP BIO-2), Section 1600 of the California Fish and Game Code (PPP BIO-3), and the Orange County Central and Coastal NCCP/HCP (PPP BIO-5) as applicable. However, at a program level of analysis, it cannot be known with certainty that impacts to jurisdictional wetlands and waters could be fully avoided, which would be considered a potentially significant impact, and would require mitigation.	• PPP BIO-1: Compliance with Section 404 of the CWA • PPP BIO-2: Compliance with Section 401 of the CWA • PPP BIO-3: Compliance with Section 1600 of the California Fish and Game Code • PPP BIO-5: Compliance with the Orange County Central and Coastal NCCP/HCP • PPP BIO-9: Compliance with Municipal Code Title 5 (Planning), Division 7 (Sustainability in Landscaping), Chapter 4 (Urban Forestry) • PPP BIO-10: Compliance with Standard Condition 2.20 (Wildlife Habitat Clearance) See mitigation measures BIO-9 and BIO-10 above.	Less than Significant
Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less than Significant	Future development under the project would not be within the Orange County Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) areas, which have been placed over regional and local wildlife corridors. Much of the City's open space has already been reserved or designated as special linkages, including through the Irvine Open Space Initiative. Future development under the project would be required to demonstrate compliance with the Orange County Central and Coastal NCCP/HCP (PPP BIO-5) and CESA (PPP BIO-6), as applicable, including with respect to wildlife movement. Due to the anticipated location of development, combined with existing PPPs, the project would not substantially interfere with the movement of any native resident or migratory fish or wildlife species, or with established native resident migratory wildlife corridors, including linkages identified in the Irvine Open Space Initiative, and impacts would be less than significant.	• PPP BIO-5: Compliance with the Orange County Central and Coastal NCCP/HCP • PPP BIO-6: Compliance with CESA	No mitigation is required.
Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less than Significant	Future development would be required to demonstrate compliance with Section 404 of the CWA (PPP BIO-1), Section 401 of the CWA (PPP BIO-2), Section 1600 of the California Fish and Game Code (PPP BIO-3), and the Orange County Central and Coastal NCCP/HCP (PPP BIO-5) and CESA (PPP BIO-6). Furthermore, Conservation and Open Space Element Goal 2, Objective COS-2 and Goal 5, Objective COS-5 seek to conserve and restore natural resources. These efforts include implementing the NCCP/HCP to ensure long-term ecological sustainability and biodiversity	• PPP BIO-1: Compliance with Section 404 of the CWA • PPP BIO-2: Compliance with Section 401 of the CWA • PPP BIO-3: Compliance with Section 1600 of the California Fish and Game Code • PPP BIO-5: Compliance with the Orange County Central and Coastal NCCP/HCP • PPP BIO-6: Compliance with CESA	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		conservation and requirement future projects to avoid impacts to biological resources.		
Would the project conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP?	Potentially Significant	Future development would be required to demonstrate compliance with Section 404 of the CWA (PPP BIO-1), Section 401 of the CWA (PPP BIO-2), Section 1600 of the California Fish and Game Code (PPP BIO-3), and the Orange County Central and Coastal NCCP/HCP (PPP BIO-5) and CESA (PPP BIO-6).	See mitigation measures BIO-1 through BIO-10 above. • PPP BIO-1: Compliance with Section 404 of the CWA • PPP BIO-2: Compliance with Section 401 of the CWA • PPP BIO-3: Compliance with Section 1600 of the California Fish and Game Code • PPP BIO-5: Compliance with the Orange County Central and Coastal NCCP/HCP	Less than Significant.
4.4 Cultural and Tribal Cultural Resources				
Would the project result in a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	Potentially Significant	Although there are no site-specific plans that would affect an identified historic resource, future developments, both within the focus areas and outside of those areas, may have the potential to affect a historic resource at the project level. Although future projects that would potentially affect historic resources would be required to comply with the National Historic Preservation Act (NHPA) and CEQA (when applicable and required (PPPs CUL-1 and CUL-2), mitigation would be required.	• PPP CUL-1: Compliance with the NHPA • PPP CUL-2: Compliance with CEQA CUL-1: The City of Irvine Director of Community Development, or designee, shall require applicants for future proposed projects proposing to renovate, alter, or demolish intact extant building(s) more than 45 years old or otherwise qualifying as a historical resource under CEQA Guidelines Section 15064.5 to provide a historic resource technical study evaluating the significance and data potential of the resource. If significance criteria are met, detailed mitigation recommendations are required as part of the technical study, which must be implemented to reduce impacts on the historical resource(s) to a less than significant level. All work shall be performed by a qualified architectural historian meeting Secretary of the Interior Standards.	Less than Significant
Would the project result in a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; religious uses or tribal cultural resources?	Potentially Significant	Future development would primarily be in urbanized areas that have previously been disturbed, and therefore are unlikely to possess native soil with buried prehistoric resources. Additionally, future development under the project would be required to adhere to Sec.3-4-132 of the City's Municipal Code and applicable state laws, which prohibit the destruction of cultural resources (PPPs CUL-4, CUL-6, and CUL-7). Similarly, Standard Condition 2.5 requires an archaeological monitoring report to be prepared prior to grading permit issuance for projects that are located on land that includes potentially significant archeological resources (PPPs CUL-5). Future projects may also be required to comply with Assembly Bill 52 and Senate Bill 18 related to consultation with Native American representatives and CEQA, when appropriate	• PPP CUL-2: Compliance with CEQA • PPP CUL-3: Compliance with AB-52/SB-18 • PPP CUL-4: Compliance with Municipal Code Sections 3-4-132 (Protection of Natural, Cultural, Structural and Archaeological Resources) and 9-10-7 (special development standards) • PPP CUL-5: Compliance with Standard Condition 2.5 (construction monitoring) • PPP CUL-6: Compliance with California Health and Safety Code Sections 7050.5, 7051, and 7054 • PPP CUL-7: Compliance with Native American Historic Cultural and Sanctified Cemetery Sites (PRC Section 5097 et seq.)	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		and necessary, which would further reduce impacts related to tribal cultural resources (PPPs CUL-2 and CUL-3). Nonetheless, construction of future development would have the potential to unearth unknown cultural resources, including religious or sacred uses, particularly within areas that have been categorized as high sensitivity, and mitigation would be required.	**CUL-2**: Prior to project approval or the issuance of grading permits (whichever is applicable and comes first), the City of Irvine Director of Community Development, or designee, acting in a similar capacity shall require applicants for future proposed ground disturbing projects to either (1) provide a technical cultural resources assessment consisting of a record search, survey, background context and project specific recommendations performed by a qualified archaeologist meeting Secretary of the Interior Standards and certified by the County of Orange or (2) agree to full-time monitoring by an archaeologist and a designated representative from the tribe/ group(s) who is culturally linked to the site. If resources are known or reasonably anticipated, the applicant shall be required to provide and follow a detailed mitigation plan which shall require monitoring during grading and other earthmoving activities in undisturbed sediments. The plan will provide a treatment plan for potential resources that includes data to be collected, requires professional identification, other special studies as appropriate, and requires curation at a repository for artifacts meeting significance criteria. A comprehensive final mitigation compliance report including a catalog of specimens with museum numbers and an appendix containing a letter from the museum stating that they are in possession of the materials shall be required and shall be submitted to the City.	
Would the project result in the disturbance of any human remains, including those interred outside of formal cemeteries?	Potentially Significant	There are no known burial sites or cemeteries within the focus areas or any other locations within the City. However, future development associated with the project could disturb native soils and therefore could have the potential to encounter human remains, especially within areas that have been categorized as having a high sensitivity for cultural resources. Therefore, although considered unlikely, the project would have the potential to impact human remains. All development in the City must comply with all applicable laws related to the discovery of human remains, including but not limited to Health and Safety Code Section 7050.5 (PPP CUL-6) and Public Safety Code Section 5097.98 (PPP CUL-7). Future projects would also be required to comply with the City's Municipal Code and Standard Condition 2.5 to further avoid impacts to the discovery of human remains (PPP CUL-4 and CUL-5).	• PPP CUL-4: Compliance with Municipal Code Sections 3-4-132 (Protection of Natural, Cultural, Structural and Archaeological Resources) and 9-10-7 (special development standards) • PPP CUL-5: Compliance with Standard Condition 2.5 (construction monitoring) • PPP CUL-6: Compliance with California Health and Safety Code Sections 7050.5, 7051, and 7054 • PPP CUL-7: Compliance with Native American Historic Cultural and Sanctified Cemetery Sites (PRC Section 5097 et seq.)	Less than Significant
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, features,	Potentially Significant	Construction of future development associated with the project would have the potential to unearth unknown cultural resources, including religious or sacred uses, particularly within areas that have been categorized as high sensitivity. Where required under	• PPP CUL-2: Compliance with CEQA • PPP CUL-3: Compliance with AB-52/SB-18	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: Listed or eligible for listing in the CRHR, or in a local register or A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set form in subdivision c of PRC Section 5024.1?		AB 52, future site-specific development under the project would be subject to further consultation and/or CEQA review, which may identify unknown tribal cultural resources that have not been formally recorded during the consultation for the project (PPPs CUL-2 and CUL-3), as well as applicable provisions of the City's Municipal Code, Standard Condition 2.5, and state law regulating the discovery of resources (PPPs CUL-5 through CUL-7). Future projects would also be required to comply with mitigation measure CUL-2, which require site-specific evaluations for culturally significant resources and/or monitoring of ground-disturbing activities.	• PPP CUL-4: Compliance with Municipal Code Sections 3-4-132 (Protection of Natural, Cultural, Structural and Archaeological Resources) and 9-10-7 (special development standards) • PPP CUL-5: Compliance with Standard Condition 2.5 (construction monitoring) • PPP CUL-6: Compliance with California Health and Safety Code Sections 7050.5, 7051, and 7054 • PPP CUL-7: Compliance with Native American Historic Cultural and Sanctified Cemetery Sites (PRC Section 5097 et seq.) See mitigation measures CUL-2 above.	
4.5 Geology/Soils				
Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: • Rupture of a known earthquake fault, • Strong seismic ground shaking, • Seismic-related ground failure, including liquefaction, • Landslides? or Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Less than Significant	Future projects introducing new development in the City associated with project approval could expose people to impacts related to seismic ground shaking. These projects would be required to adhere to safety requirements in the Municipal Code requirements related to the City's Building Code, Grading Code, Grading Manual, and site-specific geotechnical studies (PPPs GEO-4, GEO-5, GEO-6, and GEO-8), which would ensure that structures would be designed with the geologic hazards in mind to reduce risks associated with strong seismic ground shaking, seismic-related ground failure, and other geologic hazards such as liquefaction, lateral spreading, subsidence and landslides. Compliance with these regulations would reduce impacts related to seismic shaking to a less than significant level.	• PPP-GEO-1 Compliance with General Construction Permit • PPP GEO-4 Compliance with Municipal Code Title 5 (Planning), Division 9 (Building Regulations) California Building Code • PPP GEO-5 Compliance with Municipal Code Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code) • PPP GEO-6 Compliance with the City's Grading Manual • PPP GEO-7 Compliance with the Local Hazard Mitigation Plan • PPP GEO-8 Compliance with Standard Condition 2.6 Site Specific Geotechnical Study • PPP GEO-9 Compliance with Standard Condition 3.3 Disclosure Statements	Less than Significant
Would the project result in substantial soil erosion or the loss of topsoil?	Less than Significant	Future development under the project would have the potential to result in increased erosion both on- and off-site during construction and operation of future development. The statewide General Construction Permit (PPP HYD-1; SWRCB 2022) requires preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for projects that would disturb one or more acres and include construction or demolition activity,	• PPP-GEO-1 Compliance with General Construction Permit • PPP-GEO-3 Compliance with South Coast Air Quality Management District Rules 402 (Dust Suppression) and 403 (Fugitive Dust) • PPP GEO-4 Compliance with Municipal Code Title 5 (Planning), Division 9 (Building Regulations) California Building Code	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre (SWRCB 2022). The SWPPP would provide construction related BMPs to reduce erosion, resulting from construction associated with future development. Post-construction erosion resulting from increased runoff would also generally be avoided or reduced through site design and hydromodification control BMPs as required per PPP's, including those related to compliance with rules managing construction dust, grading activities, etc.. Therefore, with implementation of the PPPs, impacts related to soil erosion would be reduced to a less than significant level.	• PPP GEO-5 Compliance with Municipal Code Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code) • PPP GEO-6 Compliance with the City's Grading Manual • PPP GEO-8 Compliance with Standard Condition 2.6 Site Specific Geotechnical Study	
Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	Less than Significant	As noted by the City's 2020 Local Hazard Mitigation Plan (LHMP), although expansive soils exist, the City requires compliance with the California Building Code (PPP GEO-4), which is intended to mitigate hazards associated with this condition through professional consideration of foundation types and design criteria, including bearing capacity, for structures to be developed in the City to minimize the effects of expansive soils. Future development under the project would be required to adhere to safety requirements in the City's Municipal Code requirements related to the City's Building Code (PPP GEO-4), Grading Code (PPP GEO-5), Grading Manual (PPP GEO-6), and Standard Condition 2.6 Site Specific Geotechnical Study (PPP GEO-8) which would reduce impacts related expansive soils to a less than significant level. Compliance with these regulations would ensure that the project would not result in any impacts related to expansive soils, and impacts would be less than significant.	• PPP-GEO-1 Compliance with General Construction Permit • PPP-GEO-2 Compliance with California Public Resources Code Section 5097.5(a) regarding paleontological resources • PPP GEO-4 Compliance with Municipal Code Title 5 (Planning), Division 9 (Building Regulations) California Building Code • PPP GEO-5 Compliance with Municipal Code Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code) • PPP GEO-6 Compliance with the City's Grading Manual • PPP GEO-7 Compliance with the Local Hazard Mitigation Plan • PPP GEO-8 Compliance with Standard Condition 2.6 Site Specific Geotechnical Study • PPP GEO-9 Compliance with Standard Condition 3.3 Disclosure Statements	Less than Significant
Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact	The project does not propose the use of septic tanks or alternative wastewater disposal systems. All future development under the project would be served by wastewater utility providers. Therefore, the project would not result in impacts related to soils incapable of supporting septic tanks or alternative wastewater disposal systems.	None.	No Impact

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Potentially Significant	Future development within areas with high and moderate sensitivity would have the potential to disturb native soils, and therefore may impact paleontological resources. Per Standard Condition 2.5 (PPP-GEO-10), prior to the issuance of the first preliminary or precise grading permit for a project that is located on land that includes potentially significant archaeological and/or paleontological sites, and for any subsequent permit involving excavation to increased depth, the applicant must provide letters stating that a qualified archaeologist and paleontologist would be on-site during ground disturbing activities and would provide procedures for cultural/scientific resource surveillance. Despite compliance with Standard Condition 2.5, impacts would remain potentially significant and mitigation requiring a site-specific paleontological assessment and/or monitoring for all soils below 5 feet would be required (mitigation measure GEO-1).	• PPP-GEO-2 Compliance with California Public Resources Code Section 5097.5(a) regarding paleontological resources • PPP-GEO-10 Compliance with Standard Condition 2.5 Archaeologist/Paleontologist **GEO-1:** Prior to issuance of grading permits, applicants for future proposed ground disturbing projects in undisturbed sediments ranked moderate or above shall be required to either (1) provide a technical paleontological assessment consisting of a record search, survey, background context and project specific recommendations performed by a qualified paleontologist (with a graduate degree and a specialization in vertebrate paleontology) to the City of Irvine Department of Community Development or (2) agree to monitoring all excavations below five feet. If resources are known or reasonably anticipated the recommendations shall provide a detailed mitigation plan requiring monitoring during grading and other earthmoving activities in undisturbed sediments. The plan will establish a fossil recovery protocol that includes data to be collected, requires professional identification, radiocarbon dates and other special studies as appropriate, requires curation at local curation facility such as such as the John D. Cooper Center operated by the County of Orange for fossils meeting significance criteria. A comprehensive final mitigation compliance report including a catalog of fossil specimens with museum numbers and an appendix containing a letter from the museum stating that they are in possession of the fossils shall be required.	
4.6 Greenhouse Gas Emissions				
Would the project result in GHG emissions that may have a significant impact on the environment?	Potentially Significant	Future projects associated with buildout of the General Plan Update would be required to comply with Title 24, South Coast Air Quality Management District (SCAQMD) regulations, and City regulations pertaining to GHG emissions (PPPs GHG-1 through GHG-5. The updated General Plan also includes policy recommendations that would support GHG emission reductions and implementation of the General Plan land use plan would be supportive overall of an efficient land use and transportation, supporting GHG emissions reductions from mobile sources; however, buildout of the General Plan may still result in emissions that are not consistent with state GHG reduction goals. Furthermore, the City does not currently have an adopted CAAP. The CAAP that is currently being prepared is intended to	• PPP GHG-1: Compliance with Title 24, Part 6 – Energy Code • PPP GHG-2: Compliance with Title 24, Part 11 – California Green Building Standards Code • PPP GHG-3: Compliance with SCAQMD Regulations • PPP GHG-4: Compliance with SCAQMD CEQA Thresholds • PPP GHG-5: Compliance with Irvine Sustainable Community Initiative **GHG-1:** Applications for future development, wherein the Director of Community Development or their designee has determined a potential for GHG impacts the City shall evaluate the project to identify the potential for GHG emissions to exceed the SCAQMD thresholds detailed below. If a project may exceed the thresholds, the City shall require a technical assessment	Significant and Unavoidable

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		demonstrate how the City will reduce GHG emissions. As a result, at this program-level review, impacts related to GHG emissions resulting from General Plan buildout are considered significant and would require mitigation.	evaluating potential project GHG impacts to the City for review and approval. The significance of project-level GHG impacts shall be evaluated using one of the following criteria: 1. In the absence of a City plan to reduce GHG emissions, the evaluation shall be prepared in conformance with SCAQMD methodology for assessing GHG impacts, which consists of the following tiered approach: a. Tier 1 – The project is exempt from the California Environmental Quality Act (CEQA). b. Tier 2 – The project is consistent with an applicable regional GHG emissions reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions. c. Tier 3 – Project GHG emissions represent an incremental increase below or mitigated to less than a 3,000 MT CO_2E screening level. d. Tier 4 – The project achieves performance standards, where performance standards may include a percent emission reduction target or an efficiency target per service population. e. Tier 5 – Offsets along or in combination with the above target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition. If GHG emissions are determined to have the potential to exceed the SCAQMD's recommended thresholds, the City shall require that applicants for new development projects incorporate features to reduce GHG emissions. These identified measures shall be incorporated into all appropriate documents submitted to the City and shall be verified by the City.	
Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.	Potentially Significant	Although the General Plan policy framework includes various objectives and implementation measures that would supports GHG emission reductions, the City is not able to demonstrate whether the policy framework would be sufficient to meet state GHG emission reduction goals despite compliance with existing regulations (PPPs GHG-1 through GHG-5) aimed at minimizing GHG emissions. Impacts related to conflicts with an applicable	• PPP GHG-1: Compliance with Title 24, Part 6 – Energy Code • PPP GHG-2: Compliance with Title 24, Part 11 – California Green Building Standards Code • PPP GHG-3: Compliance with SCAQMD Regulations • PPP GHG-4: Compliance with SCAQMD CEQA Thresholds • PPP GHG-5: Compliance with Irvine Sustainable Community Initiative	Significant and Unavoidable

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs would be considered significant and would require mitigation to identify potential measures that would reduce GHG emissions below the applicable SCAQMD thresholds.	**GHG-1:** Applications for future development, wherein the Director of Community Development or their designee has determined a potential for GHG impacts the City shall evaluate the project to identify the potential for GHG emissions to exceed the SCAQMD thresholds detailed below. If a project may exceed the thresholds, the City shall require a technical assessment evaluating potential project GHG impacts to the City for review and approval. The significance of project-level GHG impacts shall be evaluated using one of the following criteria: 1. In the absence of a City plan to reduce GHG emissions, the evaluation shall be prepared in conformance with SCAQMD methodology for assessing GHG impacts, which consists of the following tiered approach: a. Tier 1 – The project is exempt from the California Environmental Quality Act (CEQA). b. Tier 2 – The project is consistent with an applicable regional GHG emissions reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions. c. Tier 3 – Project GHG emissions represent an incremental increase below or mitigated to less than a 3,000 MT CO_2E screening level. d. Tier 4 – The project achieves performance standards, where performance standards may include a percent emission reduction target or an efficiency target per service population. e. Tier 5 – Offsets along or in combination with the above target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition. If GHG emissions are determined to have the potential to exceed the SCAQMD's recommended thresholds, the City shall require that applicants for new development projects incorporate features to reduce GHG emissions. These identified measures shall be incorporated into all appropriate documents submitted to the City and shall be verified by the City.	

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
4.7 Hazards and Hazardous Materials				
Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? or Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? or Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less than Significant	Construction activities associated with this development would likely require the transport, temporary storage, and use of asphalt fuels, oils, paints, and solvents during construction. However, these materials are not acutely hazardous, and use of these common hazardous materials in small quantities would not represent a significant hazard to the public or environment. Project construction would adhere to typical Best Management Practices regarding the use of hazardous materials, such as proper labeling and storage, removal of materials once completed, and offsite vehicle maintenance. Operation of the future project would likely include the use and storage of cleaning supplies, motor oil, building maintenance supplies, paints and solvents, pesticides, or other similar materials. However, these materials are not acutely hazardous, and the limited quantities and use of such products would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. As such, the project does not propose any development that is likely to generate or use acutely hazardous materials. Furthermore, the project would not allow for development of any uses that would generate or store substantial amounts of hazardous materials. Existing uses that handle hazardous materials independent of the project would continue to be subject to the requirements of CCR, Title 22, Division 4.5 regarding hazardous waste generators, transporters, treatment, storage, and disposal facilities, requirements of the California Hazardous Materials Management Act to prepare a HMBEP for management of hazardous materials and written procedures for response to an accidental release, as well as requirements of the California HWCL for the proper management of hazardous materials.	• PPP HAZ-1: Compliance with the Certified Union Program Agency for Orange County (hazardous materials)	Less than Significant
Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?	Less than Significant	There are a total of 41 hazardous materials sites located throughout the City. Specifically, 18 sites are in Focus Area 1, one site is in Focus Area 2, 14 sites are in Focus Area 3, and the remaining 8 are located outside of the Focus Areas. In accordance with federal, state, regional, and local requirements, any new development or redevelopment that involves contaminated property would necessitate the clean-up and/or remediation of the property in accordance with applicable requirements and	• PPP HAZ-1: Compliance with the Certified Union Program Agency for Orange County (hazardous materials)	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		regulations. Therefore, adherence to applicable clean-up and/or remediation requirements and regulations, would ensure that the project would not create a significant hazard associated with known hazardous materials sites, and impacts would be less than significant.		
Would the project be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?	Less than Significant	All areas slated for future development as part of the project are outside of the area regulated by the John Wayne Airport Environs Land Use Plan (AELUP; PPP HAZ-5), with the exception of portions of Planning Areas 29 (University of California, Irvine- North Campus) and 36 (Irvine Business Complex), which are located within the John Wayne Airport safety zones, as well as the 70 community noise equivalent level (CNEL), 65 CNEL, and 60 CNEL John Wayne Airport noise contours. Future development within these planning areas would be subject to the land use restrictions for each of the compatibility zones, which provide development limitations to minimize potential incidents of off-airport accidents to persons and property on the ground. Proposed land use maps and zoning within these planning areas were developed with consideration to airport safety and Federal Aviation Regulation height limitations, and the residential and residential mixed-use overlay zones developed under the project would adhere to the same requirements. Through compliance with the regulatory requirements described above, the project would not result in a safety hazard or excessive noise for people residing or working in the project area, and impacts would be less than significant.	• PPP HAZ-5: Compliance with Orange County Airport Land Use Compatibility Plan (ALUCP) safety and noise compatibility standards for John Wayne Airport.	Less than Significant
Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less than Significant	The extension of Ada roadway is not anticipated to interfere with emergency response activities or plans, but rather would likely improve emergency responses by improving connectivity within this area of the City. Additionally, future development facilitated by the project, including new residential uses, the continuation of nonresidential uses at the same intensities permitted by the current General Plan, and nonresidential development within the Great Park area would be designed consistent with the requirements of the City's LHMP (PPP HAZ-2), the City's EOP (PPP HAZ-3), Municipal Code Title 4 (Public Safety), Division 9 (Emergency Services) (PPP HAZ-4), and Standard Condition 3.17 (Emergency Access Plan) (PPP HAZ-9). Therefore, the project would not impair implementation of or physically interfere with an	• PPP HAZ-2: Compliance with the City's LHMP • PPP HAZ-3: Compliance with the City's Emergency Operations Plan (EOP) • PPP HAZ-4: Compliance with Municipal Code Title 4 (Public Safety), Division 9 (Emergency Services) • PPP HAZ-9: Compliance with Standard Condition 3.17 (Emergency Access Plan	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		adopted emergency response plan or emergency evacuation plan, and impacts would be less than significant.		
Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Less than Significant	Approximately 1,875 acres of land located in Focus Area 3 is designated as Very High fire severity zone. However, future housing development and proposed improvements to the Great Park are not likely to be located within the segment of Focus Area 3 designated as Very High fire severity zone, and any development near this area would be designed consistent with all applicable fire safety requirements. Future development and redevelopment could also occur outside of the proposed focus areas, which may be located along the City boundaries adjacent to land identified as having Moderate, High, or Very High fire severity zone designations. All new development and redevelopment in these areas would be required to prepare a fuel modification plan before approval of tentative maps and grading permits, per City Standard Condition 2.19 Open Space Fuel Modification (PPP HAZ-7) and Standard Condition 3.14 HOA/Fuel Modification (PPP HAZ-8). Adherence to these requirements would ensure that the project would not expose project occupants to significant risks involving wildfires or the uncontrolled spread of a wildfire, and impacts would be less than significant.	• PPP HAZ-7: Compliance with Standard Condition 2.19 (Open Space Fuel Modification) • PPP HAZ-8: Compliance with Standard Condition 3.14 (HOA/Fuel Modification)	Less than Significant
4.8 Hydrology/Water Quality				
Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. or	Less than Significant	Construction activities associated with future development would likely involve grading, paving, utility installation, building construction, and landscaping installation, which could result in the generation of potential water quality pollutants such as silt, debris, chemicals, paints, and other pollutants with the potential to affect water quality. In addition, refueling and parking of construction vehicles and other construction equipment may result in oil, grease, or other related pollutant leaks and/or spills that may discharge into the storm drain system. Adherence to these PPP requirements during construction would ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged. Therefore, construction impacts associated with future developments are anticipated to be less than significant.	• PPP HYD-1 Compliance with General Construction Permit • PPP-HYD-10 Compliance with Municipal Code Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code) • PPP-HYD-12 Compliance with the City Grading Manual	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		Future priority development projects would be required to prepare Water Quality Management Plans (WQMPs) in accordance with the Model WQMP and to incorporate LID principles (PPP HYD-16). Furthermore, drainage patterns would largely be maintained and would utilize existing drainage facilities within the right-of-way. Because the City is primarily developed and because the three focus areas are largely urban in nature, new development would likely be development under buildout conditions. Therefore, overall operational impacts relating to stormwater quality would be less than significant.		
Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	Less than Significant	The project has been designed to minimize the increase in impervious surfaces by primarily focusing future development and redevelopment within the proposed focus areas (which are existing urbanized areas), thereby reducing the amount of conversion of permeable land to impermeable surfaces which would otherwise occur with more development concentrated outside of the focus areas. Additionally, future development both inside and outside of the focus areas under the project would be required to comply with federal, state, regional and local plans, programs, and policies pertaining to groundwater. All future site-specific projects would be required to comply with the Orange County Water District groundwater management plan (PPP HYD-4). Adherence to the applicable laws, standards, and requirements (including PPP HYD-4 and HYD-13) would prevent the project from substantially depleting groundwater supplies and interfering substantially with groundwater recharge, and impacts would be less than significant.	• PPP-HYD-4 Compliance with the OCWD groundwater management plan • PPP-HYD-13 Compliance with City Standard Condition 2.7 Groundwater Survey • PPP-HYD-16 City Standard Condition 2.13 Water Quality Management Plan	Less than Significant
Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) result in a substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	Less than Significant	**Erosion** Future development under the project would have the potential to result in increased erosion or siltation both on- and off-site during construction and operation of future development. The alteration of drainage patterns and increase in runoff associated with the addition of impervious surfaces and structures can increase the frequency and amount of flooding which in turn could potentially result in an accelerated rate of erosion and siltation through the watershed.	• PPP HYD-1 Compliance with General Construction Permit • PPP-HYD-2 Compliance with Section 303(d) of the federal Clean Water Act • PPP-HYD-3 Compliance with the Santa Ana RWQCB Regional Water Quality Control Plan • PPP-HYD-4 Compliance with the OCWD groundwater management plan • PPP-HYD-5 Compliance with Orange County Municipal Water Stormwater Permit and Orange County Drainage Area Management Plan (DAMP)	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows.		Operation of future development under the project, both within the focus areas and throughout the City, would have the potential to increase surface runoff and change stream-flow velocities or quantities. Although future site-specific development would be located primarily in the three focus areas, which are urbanized areas, the potential exists to affect downstream properties if drainage patterns are changed. Construction and operation of future projects facilitated by project approval would be required to comply with applicable state, regional, and local regulations (PPPs HYD-1 through HYD-16). Compliance with these regulations would ensure that the project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces. Therefore, impacts would be less than significant.	• PPP-HYD-6 Compliance with the OCFCD San Diego Creek 19999 Regional Flood Control Master Plan • PPP-HYD-7 Compliance with the IRWD Water Resources Master Plan • PPP-HYD-8 Compliance with the IRWD Urban Water Management Plan (UWMP) • PPP-HYD-9 Compliance with the City of Irvine Local Hazard Mitigation Plan • PPP-HYD-10 Compliance with Municipal Code Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code) • PPP-HYD-11 Compliance with Municipal Code Title 6 (Public Works), Division 8 (Pollution), Chapter 3 (Stormwater/Urban Runoff) • PPP-HYD-12 Compliance with the City Grading Manual • PPP-HYD-13 Compliance with City Standard Condition 2.7 Groundwater Survey • PPP-HYD-14 Compliance with City Standard Condition 2.11 Special Flood Hazard Area • -PPP-HYD-15 Compliance with City Standard Condition 2.12 Water Quality – Notice of Intent • PPP-HYD-16 City Standard Condition 2.13 Water Quality Management Plan	
In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation.	Less than Significant	The project is not located within a tsunami or seiche zone. Therefore, there are no potential impacts related to tsunamis. Hazardous conditions related to a seiche within North Lake or South Lake in the Woodbridge community are unlikely given the small size of the lakes and the height of the banks surrounding the lakes. No other enclosed waterbodies where a seiche could occur exist within the City . Future development within areas mapped as flood zones would be required to comply with compliance measures as specified by City Planning Commission Resolution No. 09-2968 with respect to Special Flood Hazard Areas (PPP-HYD-14). Therefore, compliance with applicable regulations would ensure that project impacts related to flood hazard, tsunami, or seiche zones would be less than significant.	• PPP-HYD-5 Compliance with Orange County Municipal Water Stormwater Permit and Orange County Drainage Area Management Plan (DAMP) • PPP-HYD-6 Compliance with the OCFCD San Diego Creek 19999 Regional Flood Control Master Plan • PPP-HYD-9 Compliance with the City of Irvine Local Hazard Mitigation Plan • PPP-HYD-14 Compliance with City Standard Condition 2.11 Special Flood Hazard Area • PPP-HYD-18 City Standard Condition 3.4 Special Flood Hazard Area • PPP-HYD-19 City Standard Condition 4.5 Special Flood Hazard Area • PPP-HYD-21 Compliance with sustainability in Landscaping Guideline Manual	Less than Significant
Would the project conflict with or obstruct implementation of a water	Less than Significant	Future development associated with the project has been designed to minimize the increase in impervious surfaces by primarily focusing future development and redevelopment within	• PPP HYD-1 Compliance with General Construction Permit • PPP-HYD-2 Compliance with Section 303(d) of the federal Clean Water Act	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
quality control plan or sustainable groundwater management plan?		the proposed focus areas which are existing urbanized areas, thereby reducing the amount conversion of permeable land to impermeable surfaces. Additionally, future development under the project would be required to comply with federal, state, regional and local plans, programs, and policies pertaining to groundwater. Construction and operation of the project would comply with PPPs HYD-1 through HYD-5, PPP HYD-7 through HYD-9, PPP HYD-11 through HYD-17, and PPP-HYD-20, which require compliance and implementation of existing water quality control plans and sustainable groundwater management plans. Therefore, the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan, and impacts would be less than significant.	• PPP-HYD-3 Compliance with the Santa Ana RWQCB Regional Water Quality Control Plan • PPP-HYD-4 Compliance with the OCWD groundwater management plan • PPP-HYD-5 Compliance with Orange County Municipal Water Stormwater Permit and Orange County Drainage Area Management Plan (DAMP) • PPP-HYD-6 Compliance with the OCFCD San Diego Creek 19999 Regional Flood Control Master Plan • PPP-HYD-7 Compliance with the IRWD Water Resources Master Plan • PPP-HYD-8 Compliance with the IRWD Urban Water Management Plan (UWMP) • PPP-HYD-9 Compliance with the City of Irvine Local Hazard Mitigation Plan • PPP-HYD-11 Compliance with Municipal Code Title 6 (Public Works), Division 8 (Pollution), Chapter 3 (Stormwater/Urban Runoff) • PPP-HYD-12 Compliance with the City Grading Manual • PPP-HYD-13 Compliance with City Standard Condition 2.7 Groundwater Survey • -PPP-HYD-15 Compliance with City Standard Condition 2.12 Water Quality – Notice of Intent • PPP-HYD-16 City Standard Condition 2.13 Water Quality Management Plan • PPP-HYD-17 City Standard Condition 3.3 Disclosure Statements • PPP-HYD-20 Compliance with Local Implementation Plan (LIP)	
4.9 Land Use and Planning				
Would the project physically divide an established community?	Less than Significant	Implementation of the project would not include new major infrastructure, such as a freeway, that could physically divide an established community. The project would also strategically direct future development to the three focus areas to retain the existing character of more established residential communities in the central area of the City and concentrate higher-density development in more urban areas. The project also encourages the preservation of existing residential communities through infill development facilitated by the Residential and Residential Mixed-Use Overlay, which would reduce potential conflicts between contrasting land uses and would enhance existing neighborhoods by responsibly integrating new development into existing communities. Additionally, the proposed project includes non-residential improvements to the Great Park area and an extension to Ada, a local roadway. All Great Park improvements are	• PPP LU-4: Compliance with Zoning Ordinance	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		intended to serve visitors of the park and would occur within an area slated for buildout of a regionally serving park. Therefore, implementation of the project would ensure the development of cohesive neighborhoods without physically dividing existing communities.		
Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact?	Potentially Significant	**General Plan and Municipal Code**: Future development would be reviewed to consider consistency with all applicable plans, including the City's General Plan, Municipal Code, and Zoning Ordinance. Therefore, land use consistency impacts associated with adoption of the General Plan Update would be less than significant. **SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS):** The project would serve as an important action towards implementing the City's 6th Cycle 2021-2029 Housing Element and the associated RHNA allocation of 23,610 units. Because the housing assessment in the RHNA is determined by SCAG, any future development of vacant and/or developed sites would accommodate planned increases in population based on SCAG's demographic projections. Future housing developed under the project would provide housing necessary to meet the City's RHNA allocation of 23,610 units, as well as accommodate future population growth and housing needs accounted for in SCAG's growth projections. Therefore, land use consistency impacts related to conflicts with SCAG would be less than significant. **John Wayne Airport Environs Land Use Plan (AELUP):** Future development in the area of the City subject to the AELUP would be required to comply with height, use and noise limitations designated in the AELUP. Additionally, future projects would be required to file for a consistency determination with ALUC as specified in Section 4.7 of the AELUP (PPP-LU-1). As with future projects, the proposed project (the General Plan Update) is required to be reviewed by ALUC for a consistency determination with the AELUP. If ALUC determines that the project is inconsistent with the AELUP, ALUC is required to notify the City. Therefore, land use compatibility impacts related to conflicts with the AELUP would be less than significant.	• PPP LU-1: Compliance with the Airport Environs Land Use Plan for John Wayne Airport • PPP LU-2: Compliance with the Orange County Central and Coastal Natural Community Conservation Plan (NCCP) • PPP LU-3: Compliance with the City Local Coastal Program and Zoning Ordinance Chapter 2-7 Coastal Zone Regulations for Developments Located in Coastal Zone • PPP LU-4: Compliance with Zoning Ordinance • PPP LU-5: Compliance with the City Parks Master Plan • PPP LU-6: Compliance with the UCI LDRP Refer to mitigation measures BIO-1 through BIO-10 above and in Section 4.3, Biological Resources.	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		Orange County Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP): Future development resulting from implementation of the project would be required to comply with the NCCP/HCP. As part of the project approval process, each future proposed project with the potential to impact biological resources would be required to conduct an initial site assessment to determine if sensitive biological resources could be present within and/or adjacent to the proposed development project (refer to mitigation measure BIO-1). Individual projects would also be assessed for compliance with the NCCP/HCP depending on whether the project site lies inside the NCCP/HCP Reserve System (including the Irvine Open Space Preserve of the Irvine Open Space Initiative) or Special Linkage Areas. Therefore, land use compatibility impacts related to conflicts with the NCCP would be less than significant with mitigation incorporated. **Local Coastal Plan (LCP):** The proposed project would require an amendment to the City's Local Coastal Program to ensure consistency between the land use updates included as part of the project and the Local Coastal Program. The Local Coastal Program amendment is required to be reviewed and processed by the California Coastal Commission, a process that would start immediately following project approval. Once approved, any future development under the project that would be located within the coastal zone would be required to comply with development standards and applicable policies in the City's Local Coastal Program (PPP LU-3). Therefore, land use compatibility impacts related to conflicts with the City's Local Coastal Program would be less than significant. **Zoning Ordinance:** Future development under the project would be required to comply with land use regulations and development standards set forth in the City's Zoning Ordinance (PPP LU-4). Additionally, development within the City's Focus Areas would be required to adhere to the land use plans that provide supplemental development regulations for those areas, as well as applicable regulations in the Municipal Code that serve to reduce or avoid environmental impacts (PPP LU-3 Therefore, land use compatibility impacts related to conflicts with the City's Zoning Ordinance would be less than significant.		

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		Parks Master Plan: New development under the project would be consistent with this plan as it would implement or fund the implementation of the City Parks Master Plan (PPP LU-5). Therefore, land use compatibility impacts related to conflicts with the City's Parks Master Plan would be less than significant. **UCI LDRP:** Future development within the UCI campus would be subject to review with the UCI Long Range Development Plan (LDRP) (PPP LU-6) by UCI for consistency with the general types of campus development and land uses proposed through the plan horizon year of 2025-26. Therefore, land use compatibility impacts related to conflicts with the UCI's LRDP would be less than significant.		
4.10 Noise				
Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	**Traffic Noise:** Potentially Significant **Railroad Noise:** Potentially Significant **Stationary Noise:** Potentially Significant **Construction Noise:** Potentially Significant	**Traffic Noise:** <u>Ambient Noise</u> Under buildout of the adopted General Plan, off-site traffic noise level impacts would exceed noise level increase thresholds along 86 segments. Future development would be required to prepare noise studies in accordance with the City's environmental review procedure for all projects that are not "clearly compatible" with the future noise level at the site. These studies are required to identify all measures necessary to reduce noise levels to meet the City's interior and exterior noise compatibility standards and Single Event Noise Standard. Through implementation of these policies, noise levels at new noise-sensitive land uses would be evaluated and noise reduction techniques would be implemented to reduce noise exposure. However, the increase in ambient noise levels adjacent to the roadway segments specified in the Noise analysis would likely remain at levels that would expose existing noise-sensitive receptors to a significant increase in ambient noise levels, and impacts would be significant. <u>Land Use Compatibility</u> Future development would be required to prepare noise studies in accordance with the City's environmental review procedure for all projects that are not "clearly compatible" with the future noise level at the site. These studies are required to identify all measures necessary to reduce noise levels to meet the City's interior and exterior noise compatibility standards and Single Event Noise	• PPP NOS-1: Compliance with the California Code of Regulations interior noise standards. • PPP NOS-2: Compliance with Orange County ALUCP noise compatibility standards for John Wayne Airport. • PPP NOS-3: Compliance with the City's Municipal Code. **NOI-1:** Prior to the issuance of building permits, site-specific exterior noise analyses that demonstrate that the project would not place residential receptors in locations where the exterior existing or future noise levels would exceed the City's noise compatibility standards shall be required as part of the review of future residential development proposals. Noise reduction measures, including but not limited to building noise barriers, increased building setbacks, speed reductions on surrounding roadways, alternative pavement surfaces, or other relevant noise attenuation measures, may be used to achieve the noise compatibility standards. Exact noise mitigation measures and their effectiveness shall be determined by the site-specific exterior noise analyses. **NOI-2:** Prior to the issuance of building permits, site specific interior noise analyses demonstrating compliance with the City's interior noise compatibility standards and other applicable regulations shall be prepared for noise sensitive land uses located in areas where the exterior noise levels exceed the City's noise compatibility standards. Noise control measures, including but	**Traffic Noise:** Significant and Unavoidable **Railroad Noise:** Less than Significant. **Stationary Noise:** Less than Significant **Construction Noise:** Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		Standard. Conditional use permits would be required for noise-sensitive land uses such as hospitals, libraries, churches, and schools located in areas not "clearly compatible" to demonstrate how exterior noise exposure would be minimized, such as building orientation, shielding, or limiting outdoor programs. Additionally, mixed-use and multi-family residential developments are required to demonstrate noise compatibility between uses. However, traffic noise would likely remain at levels that that would exceed exterior and interior standards, and impacts would be significant. However, noise associated with railroad operations would likely remain at levels that would expose existing noise-sensitive receptors to a significant increase in ambient noise levels, and impacts would be significant and would require mitigation. **Railroad Noise:** Focus Areas 2 and 3 are exposed to significant railroad noise level. Noise-sensitive receivers in the vicinity of the railroad tracks could be exposed to noise levels that exceed the compatibility standards and would require mitigation. Noise associated with railroad operations would likely remain at levels that would expose existing noise-sensitive receptors to a significant increase in ambient noise levels. Therefore, because specific project details are not yet known, railroad noise impacts associated with new development would be significant. **Stationary Noise:** While noise-sensitive residential land uses would be exposed to noise associated with the operation of commercial and industrial uses, future development would be required to show compliance with the Municipal Code. However, noise associated with stationary noise would likely remain at levels that would expose existing noise-sensitive receptors to a significant increase in ambient noise levels, and impacts would be significant and would require mitigation. **Construction Noise:** Implementation of the project would increase development capacity within the City. Construction noise levels are variable and depend on specific locations, site plans, and construction details relative to specific projects. Significant noise impacts may occur associated with individual projects which have not yet been developed, particularly if construction techniques (e.g., pile driving) are proposed. However, construction would be localized and would occur intermittently for varying periods of time in	not limited to increasing roof, wall, window, and door sound attenuation ratings, placing HVAC in noise reducing enclosures, or designing buildings so that no windows face freeways or major roadways may be used to achieve the noise compatibility standards. Exact noise mitigation measures and their effectiveness shall be determined by the site specific exterior noise analyses. **NOI-3:** Prior to the issuance of a building permit, a site-specific acoustical/noise analysis of any on-site generated noise sources, including generators, mechanical equipment, and trucks, shall be prepared which identifies all noise-generating equipment, predicts noise levels at property lines from all identified equipment, and recommends mitigation to be implemented (e.g., enclosures, barriers, site orientation), to ensure compliance with the City's noise standards. Noise reduction measures shall include building noise-attenuating walls, limiting the hours of operation, or other attenuation measures. Additionally, future projects shall be required to buffer sensitive receptors from noise sources through the use of open space and other separation techniques as recommended after thorough analysis by a qualified acoustical engineer. Exact noise mitigation measures and their effectiveness shall be determined by the site specific noise analyses. **NOI-4**: Construction contractors shall implement the following measures for construction activities conducted in the City of Irvine. Construction plans submitted to the City shall identify these measures on demolition, grading, and construction plans submitted to the City: • The City of Irvine Community Development Department shall verify that grading, demolition, and/or construction plans submitted to the City include these notations prior to issuance of demolition, grading, and/or building permits. • Construction activity is limited to the hours: Between 7:00 AM to 7:00 PM Monday through Friday and 9:00 a.m. and 6:00 p.m. on Saturdays as prescribed in Municipal Code Section 66-8-205(A). No construction activities shall be permitted outside of these hours or on Sundays and federal holidays, except Columbus Day, unless a temporary waiver is granted by the Chief Building Official or their authorized representative.	

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Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		accordance with the City's Municipal Code, Zoning Ordinance, and Noise Element. Because project-level information is not yet available, it is not possible to quantify construction noise impacts at noise-sensitive receptors. In most cases, construction of individual projects would temporarily increase the ambient noise environment, potentially affecting existing and future sensitive receptors. However, because construction activities may occur near noise-sensitive uses and because noise disturbances could occur for prolonged periods of time or during noise-sensitive hours of the day, construction noise impacts associated with future development would be significant and would require mitigation.	• During the entire active construction period, equipment and trucks used for project construction shall use the best-available noise control techniques (e.g., improved mufflers, equipment re-design, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds), wherever feasible. • Impact tools (e.g., jack hammers and hoe rams) shall be hydraulically or electrically powered wherever possible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools. • Stationary equipment, such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses. • Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors. • Construction traffic shall be limited, to the extent feasible, to approved haul routes established by the City of Irvine Community Development Department. • At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction days and hours, as well as the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, he/she shall investigate, take appropriate corrective action, and report the action to the City. • Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes. • During the entire active construction period and to the extent feasible, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall use smart back-up alarms, which automatically adjust the alarm level based on the background noise level or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws. • Erect temporary noise barriers (at least as high as the exhaust of equipment and breaking line-of-sight between noise sources and sensitive receptors), as necessary and feasible, to maintain construction noise levels at or below the performance standard of 80 dBA Leq. Barriers shall be constructed with a solid material that	

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Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
			has a density of at least 4 pounds per square foot with no gaps from the ground to the top of the barrier.	
Would the project result in generation of excessive groundborne vibration or ground borne noise levels?	**Construction:** Potentially Significant **Railroad:** Potentially Significant **Stationary Sources**: Less than Significant	**Construction** The City limits construction activities to 7:00 a.m. and 7:00 p.m. Mondays through Fridays, and 9:00 a.m. and 6:00 p.m. on Saturdays (PPP NOS-2. However, construction details and equipment for future project-level development is not known. Despite implementation of these policies and implementing actions, future development would result in potentially significant construction vibration impacts requiring mitigation. Mitigation measure NOI-5 requires project-specific measures for projects using construction equipment that could result in elevated vibration levels. **Railroad:** The Metrolink, Amtrak, and BNSF freight trains operate within the City. Construction of vibration-sensitive uses close to railroad tracks can cause rattling windows and vibration of floors. Despite implementation of policies and implementing actions meant to reduce vibrational impacts associated with rail, future development could result in potentially significant railroad vibration impacts. Mitigation measure NOI-6 requires preparation of a groundborne vibration and noise evaluation for projects proposing residential uses within 200 feet of existing railroad lines. **Stationary Sources**: Industrial manufacturing operations occasionally utilize equipment or processes that have a potential to generate groundborne vibration. The project does not propose any industrial manufacturing uses. Therefore, vibration impacts associated with stationary sources would be less than significant.	• PPP NOS-2: Compliance with the City's Municipal Code. **NOI-5:** Prior to issuance of a building permit for a project requiring pile driving during construction within 135 feet of fragile structures, such as historical resources, 100 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of engineered concrete and masonry (no plaster); or a vibratory roller within 25 feet of any structure, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration (FTA) architectural damage thresholds (e.g., 0.12 inches per second [in/sec] peak particle velocity [PPV] for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If vibration levels would exceed this threshold, alternative uses such as drilling piles as opposed to pile driving and static rollers as opposed to vibratory rollers shall be used. If necessary, construction vibration monitoring shall be conducted to ensure vibration thresholds are not exceeded. **NOI-6**: New residential projects (or other noise-sensitive uses) located within 200 feet of existing railroad lines shall be required to conduct a groundborne vibration and noise evaluation consistent with Federal Transit Administration (FTA)-approved methodologies.	**Construction:** Significant and Unavoidable **Railroad:** Less than significant. **Stationary Sources** Less than Significant
Would the project be located within the vicinity of a private airstrip or an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and expose people residing or working in the area to excessive noise levels?	Less than Significant	Future development would be required to prepare noise studies in accordance with the City's environmental review procedure for all projects that are not "clearly compatible" with the future noise level at the site. These studies are required to identify all measures necessary to reduce noise levels to meet the City's and State's interior and exterior noise compatibility standards and Single Event Noise Standard (PPPs NOS-1 and NOS-3). Future projects would also be required to comply with noise-related regulations in the Orange County ALUP and AELUP (PPP NOS-3). Therefore,	• PPP NOS-1: Compliance with the California Code of Regulations interior noise standards. • PPP NOS-2: Compliance with Orange County ALUCP noise compatibility standards for John Wayne Airport. • PPP NOS-3: Compliance with the City's Municipal Code.	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		adherence with the noise requirements of the ALUP (PPP NOS-2)would ensure that future development would not expose people to excessive aircraft noise levels, and impacts would be less than significant.		
4.11 Population and Housing				
Would the project induce substantial unplanned population growth in an area, either directly ((for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	Less than Significant	Approval of the project would serve as an important action towards implementing the City's 6th Cycle 2021-2029 Housing Element and the associated RHNA allocation of 23,610 units. Because the housing assessment in the RHNA is determined by SCAG, future development under the project would accommodate increases in population based on SCAG's demographic projections. Therefore, the project would accommodate planned growth projected by SCAG. Furthermore, the project would reduce the City's existing jobs/housing imbalance. As such, the project would account for planned population growth, would increase housing within the City, and improve the City's jobs/housing balance. Future development under the project would primarily be in developed areas that are already served by infrastructure, and it is not anticipated that future housing development facilitated by the project would induce unplanned population growth directly or indirectly through extension of roads or other infrastructure or otherwise. Additionally, the 2021-2029 Housing Element includes goals, policies and objectives aimed at managing future growth within the City by updating the land use element and Zoning Ordinance to comply with State law and by ensuring appropriate land use planning to provide adequate infrastructure, services, and facilities to serve residents. he project would implement the vision of the 2021-2029 Housing Element, and future development under the project would not induce substantial unplanned population growth in an area, either directly or indirectly, and impacts would be less than significant.	Refer to goals, policies, and objectives in the adopted 2021-2029 Housing Element and in Section 4.11,Population and Housing.	Less than Significant
Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	Less than Significant	Although some people may be displaced by a future site-specific redevelopment project, buildout of the project would provide an overall expansion of housing opportunities, and would be required to comply with all laws and regulations related to the displacement of tenants including Government Code §§66300 et seq. Furthermore, the project would exceed the state RHNA allocations assigned to the City, providing a buffer in all income		Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		categories. This exceedance of the City's RHNA allocation would provide additional housing that would accommodate residents displaced by future redevelopment projects, ensuring no net loss of housing, and that displaced residents would be able to find replacement housing. Therefore, displacement of people associated with implementation of the project would be temporary. Through the overall production of more housing and compliance with applicable laws related to the displacement of tenants, the project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and impacts would be less than significant.		
4.12 Public Services and Recreation				
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: • Fire Protection; • Police Protection; • Schools; • Parks/Recreational Facilities • Other Public Facilities?	Less than Significant	***Fire Protection:*** Future development facilitated by the project may necessitate construction of additional fire stations, fire-rescue personnel, equipment, and facilities to protect and serve the public. OCFA has identified potential locations of future fire stations within the City, and future development under the project would be required to pay a development impact fee (DIF) that would be used exclusively for future facility improvements necessary to ensure contribution of its fair share of the cost of facilities and equipment. Payment of the DIF would allow future site-specific development to contribute to its fair share cost of facilities and equipment due to the increased demand for fire protection services. However, future development would occur incrementally through 2045, based on market conditions and other factors, such that fire protection facilities and services are not overburdened at any given time. Staffing levels for fire protection services within the City would continue to be established by the Orange County Fire Authority (OCFA) based on its contract with the City. Development of site-specific future housing would not directly result in sufficient demand to require construction of new fire facilities, since each incremental housing development would pay its fair share toward anticipated fire facility needs. Therefore, the project would not result in the need for new or altered fire protection facilities, and impacts would be less than significant.	• PPP PS&R-1: Compliance with City Standard Condition 2.19 (Open Space Fuel Modification) • PPP PS&R-2: Compliance with City Standard Condition 3.14 (HOA/Fuel Modification) • PPP PS&R-3: Compliance with City Standard Condition 4.9 (Emergency Access Inspection) • PPP PS&R-4: Compliance with City Standard Condition 4.12 (Phased Occupancy of Multi-Building Residential Development) Police Protection • PPP PS&R-5: Compliance with City Standard Condition 3.6 (Site Lighting Requirement) • PPP PS&R-6: Compliance with City Standard Condition 3.17 (Emergency Access Plan) • PPP PS&R-7: Compliance with City Standard Condition 3.18 (Wayfinding (Directional) Plan) • PPP PS&R-8: Compliance with City Standard Condition 3.20 (Construction Site Security Plan) • PPP PS&R-9: Compliance with City Standard Condition 4.9 (Emergency Access Inspection)	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		Police Protection: Future site-specific development could potentially increase demand for police protection facilities. Actual needs and potential locations would be determined in the future as development occurs, but increases in demand would be greatest in all three focus areas since the majority of new housing would be located there. Future development would occur incrementally through 2045, based on market conditions and other factors, such that police protection facilities and services are not overburdened at any given time. Additionally, development site-specific future housing would not directly result in sufficient demand to require construction of new police facilities, since each incremental housing development would pay its fair share toward anticipated facility needs. Therefore, the project would not result in substantial adverse impacts associated with the need for new or altered police protection facilities, and impacts would be less than significant. ***Schools:*** Future site-specific residential development could potentially increase demand for additional school facilities. Actual needs and potential locations would be determined in the future as development occurs, but increases in demand would be greatest in all three focus areas since the majority of new housing would be located there. However, future development would occur incrementally through 2045, based on market conditions and other factors, such that school services are not overburdened at any given time. Pursuant to California Government Code Section 65995, the individual applicants shall pay developer fees to the appropriate school districts at the time building permits are issued; payment of the adopted fees would provide full and complete mitigation of school impacts. Per AB 2626 and SB 50, school districts may impose a fee in conjunction with the construction of new commercial or residential buildings and for those projects that are adding square footage to an existing commercial or residential building. In addition to Measure E,		

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		school funding consists of a contribution of local funding through a Community Facilities District (CFD), State funding, and/or other forms of mitigation negotiated with developers. Development of site-specific future housing would not directly result in sufficient demand to require construction of new school facilities, since each incremental housing development would pay its fair share toward anticipated facility needs. Therefore, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, and impacts would be less than significant. ***Parks/Recreational Facilities:*** See issue below. ***Other Public Facilities:*** Development of future site-specific housing would not directly result in sufficient demand to require construction or expansion of additional public facilities (including libraries), since each incremental housing development would pay its fair share toward anticipated needs. Based on the incremental increase in demand and the payment of DIF to address increased demand on public facilities, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered public facilities, and impacts would be less than significant.		
Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? or Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Less than Significant	Future site-specific residential development could potentially increase the use of existing neighborhood and regional parks or other recreational facilities. The existing and projected deficit in population-based parks and recreation facilities would remain upon implementation of the project. However, future development would occur incrementally through 2045, based on market conditions and other factors, such that parks are not overburdened at any given time. As such, there would not be a sudden increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Future development under the project would also be subject to the requirements of the Quimby Act and the fee schedule established by the City for the payment of development impact fees to support the provision of new recreational facilities and the	• PPP PS&R-10: Compliance with City Standard Condition 1.10 (Easement for Public Trail) • PPP PS&R-11: Compliance with City Standard Condition 1.11 (Open Space Irrevocable Offer) • PPP PS&R-12: Compliance with City Standard Condition 1.12 (Public Park Dedication) • PPP PS&R-13: Compliance with City Standard Condition 2.15 (Private Trail Reservation) • PPP PS&R-14: Compliance with City Standard Condition 2.16 (Public Trail Dedication) • PPP PS&R-15: Compliance with City Standard Condition 2.17 (Public Park Dedication) • PPP PS&R-16: Compliance with City Standard Condition 2.18 (Park Construction Phasing)	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		rehabilitation of existing neighborhood parks or recreational facilities. Development of future site-specific housing would not directly result in sufficient demand to require construction of new parks, since each incremental housing development would pay its fair share toward anticipated park needs through the payment of fees. Therefore, based on the incremental demand that would occur project buildout for park facilities and compliance with applicable regulations (such as the City's parkland standards), the project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated and would not have adverse physical effect on the environment caused by expansion or construction of recreational facilities, and impacts would be less than significant.	• PPP PS&R-17: Compliance with City Standard Condition 3.11 (Park Design Consistency) • PPP PS&R-18: Compliance with City Standard Condition 3.12 (Private Park Reservation)	
4.13 Transportation				
Would the project conflict with a plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Less than Significant	**Roadway System:** The updated Circulation Element includes objectives and policies aimed at improving the existing roadway network. The proposed project would also be consistent with the Complete Streets Act because it aims to prioritize multimodal transportation options, with a specific emphasis on reducing vehicle miles travelled through bikeway and/or pedestrian infrastructure improvements. Therefore, the project would not conflict with a plan, ordinance, or policy addressing roadway circulation, and impacts would be less than significant. **Public Transit System:** Increased development within the City is likely to increase demand for public transportation. Future site-specific development under the project may be required to provide bus bays, bus stops and bus shelters adjacent to roads and streets traversing or bounding the development, as requested by the City consistent with the requirements of Municipal Code Title 6 (Public Works), Division 3 (Transportation), Chapter 6 (Trip Reduction Facilities) (PPP TRA-1). Overall, the proposed project prioritizes multimodal transportation systems, supports first/last mile connectivity to transit, supports complete street improvements, which is consistent with regional transportation planning efforts. Therefore, the project would not conflict with a plan, ordinance, or	• PPP TRA-1 Compliance with Municipal Code Title 6 (Public Works), Division 3 (Transportation), Chapter 6 (Trip Reduction Facilities) • PPP TRA-2: Compliance with Standard Condition 6.4 (Privacy Gates–Vehicle Stacking) • PPP TRA-3: Compliance with Standard Condition 3.17 (Emergency Access Plan) • PPP TRA-4: Compliance with Standard Condition 4.9 (Emergency Access Inspection) • PPP TRA-5: Compliance with Standard Condition 3.27 (Construction Phasing Plan)	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		policy addressing pedestrian and public transportation, and impacts would be less than significant. **Pedestrian and Bicycle System:** The proposed project incorporates policies that support pedestrian and bicycle facilities. These include prioritizing multimodal systems, maintaining a network of complete streets to provide mobility opportunities for all users, promoting development of mixed-use projects (particularly within proximity villages within the three Focus Areas) to create pedestrian- and bicyclist-friendly areas, maintaining the existing bicycle and pedestrian network, and promoting pedestrian and bicyclist safety. Therefore, the project would not conflict with a plan, ordinance, or policy addressing pedestrian and bicycle travel, and impacts would be less than significant.		
Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	Potentially Significant	Buildout of the project would generate a VMT per service population value of 24.94, which would require a 3.5 percent reduction in VMT to meet the significance threshold of 24.06.. Therefore, projected VMT generated under buildout of the project would be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). This would be considered a potentially significant impact, and mitigation requiring on-site infrastructure improvements and TDM strategies would be required.	• PPP TRA-1 Compliance with Municipal Code Title 6 (Public Works), Division 3 (Transportation), Chapter 6 (Trip Reduction Facilities) **TRA-1**: On-Site Infrastructure The City of Irvine Director of Community Development, or designee, shall require applicants for future proposed projects that exceed VMT thresholds to incorporate on-site connectivity into site design in order to achieve a reduction of 2.5 percent VMT rate. Site design measures to achieve this VMT reduction would include promotion of bicycle activity (i.e., bike facilities) and pedestrian walkability (i.e., connected sidewalks from building entrances to public streets). **TRA-2** On-Site Transportation Demand Management The City of Irvine Director of Community Development, or designee, shall require applicants for future proposed projects that exceed VMT thresholds to incorporate a TDM program to achieve a reduction of up to 5 percent VMT rate. While TDM programs in the past have typically focused on employer sites, they can also be implemented to new residential developments with measures such as bike share or car share programs.	Significant and Unavoidable

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less than Significant	The General Plan Update includes several policies aimed at improving the City's circulation network that are aimed at reducing existing and potential transportation hazards. Future site-specific development under the project would be subject to the appropriate entitlement application review process as well as design and engineering review to ensure roads and access is configured consistent with established roadway design standards. Furthermore, future site-specific development under the project (including residential projects, Great Park improvements, and the Ada extension) would be subject to both a design and engineering review (and likely a review by the Orange County Fire Authority) to ensure roads and access is configured consistent with established roadway design standards. Future projects would also be required to comply Standard Condition 6.4, (PPP TRA-2) which outlines procedures to be followed should vehicle stacking result from the operation of residential privacy gates associated with residential development projects. Therefore, implementation of the project would not result in hazardous conditions, create conflicting uses, or cause a detriment to emergency vehicle access. Impacts would be less than significant.	• PPP TRA-2: Compliance with Standard Condition 6.4 (Privacy Gates–Vehicle Stacking)	Less than Significant
Would the project result in inadequate emergency access?	Less than Significant	Future projects would be subject to the City's design requirements regarding emergency access per Planning Commission Resolution No. 09.2968. City Standard Condition 3.17 (Emergency Access Plan)(PPP TRA-3) requires an applicant to submit and have approved by the Chief of Police an Emergency Access Plan, which identifies and locates all Knox Boxes, Knox key switches, and Click2Enter radio access control receivers per the Irvine Uniform Security Code requirements. Similarly, City Standard Condition 4.9 (Emergency Access Inspection)(PPP TRA-4) requires an applicant to pass an inspection, to be performed by the Police Department and the Orange County Fire Authority, to ensure compliance with the Emergency Access Plan requirements. The inspector shall verify test acceptance and locations of all Knox boxes, key switches and Click2Enter devices as depicted on the approved plan. Prior to construction, future development would prepare a construction phasing plan (PPP TRA-5) that would include measures to maintain emergency access. Therefore, compliance with these regulations would ensure that impacts would be less than significant.	• PPP TRA-3: Compliance with Standard Condition 3.17 (Emergency Access Plan) • PPP TRA-4: Compliance with Standard Condition 4.9 (Emergency Access Inspection) • PPP TRA-5: Compliance with Standard Condition 3.27 (Construction Phasing Plan)	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
4.14 Utilities and Service Systems				
Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less than Significant	**Water** Total project-related water demand would be within Irvine Ranch Water District capacity to serve the project. Future infrastructure improvement would be subject to the requirements of the City's engineering standard plans (PPP UTIL-1), and all construction would be performed in accordance with the Construction General Permit and all associated requirements. When considering impacts resulting from the installation of any required water infrastructure, all impacts are of a relatively short-term duration and would cease to occur once the installation is complete. Therefore, impacts associated with construction of new or expanded water facilities would be less than significant. **Wastewater** Total project-related wastewater demand would be within the Michelson Water Recycling Plant capacity to serve the project. Future infrastructure improvements would also be subject to the requirements of the City's engineering standard plans (PPP UTIL-1), which would ensure that all improvements comply to the City's standard requirements for infrastructure improvements. Therefore, impacts associated with construction of new or expanded wastewater facilities would be less than significant. **Stormwater** Current runoff is captured and conveyed by existing City or County storm drain infrastructure throughout the City before discharging to regional County flood control facilities and channels. The City is primarily built out, and no major changes in storm flows are anticipated. Future infrastructure improvement would be subject to the requirements of the City's engineering standard plans (PPP UTIL-1), and all construction would be performed in accordance with the Construction General Permit and all associated requirements. All impacts would be short-term and would cease to occur once the installation is complete. Therefore, impacts associated with construction of new or expanded stormwater facilities would be less than significant. **Electric Power, Natural Gas, and Telecommunications** Future development would occur incrementally through 2045, based on market conditions and other factors, such that demand for these utility services would not be overburdened at any given	• PPP-UTIL-1 Engineering Standard Plans • PPP-UTIL-2 Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential) • PPP-UTIL-3 Irvine Sustainability Community Initiative	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		time. Additionally, future development under the project would accommodate increases in population based on SCAG's demographic projections. Therefore, the project would accommodate planned growth, and would not exceed regionally forecasted demand for electric power by Southern California Edison and Orange County Power Authority or natural gas for SoCalGas. Furthermore, future development under the project would connect to the existing telecommunications infrastructure (telephone, internet, wireless services) present within the City. The City currently implements strategies to reduce energy consumption through compliance with the Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential) (PPP UTIL-2) and the Irvine Sustainability Community Initiative (PPP UTIL-3). Future development under the project would also comply with these requirements. Future infrastructure improvement would be subject to the requirements of the City's engineering standard plans (PPP UTIL-1), and all construction would be performed in accordance with the General Construction Permit and all associated requirements. Therefore, impacts associated with construction of new or expanded electric power, natural gas, and telecommunications facilities would be less than significant.		
Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	Less than Significant	IRWD is projected to have a water supply capacity of 178,727 acre feet per year (AFY) through 2040, which far exceeds IRWD's project water supply demand of 88,023 AFY through 2040. Consequently, IRWD would have a water supply surplus of 90,704 AFY through 2040, which would exceed the project's projected increase in water demand of 2,093 AFY. Furthermore, future development under the project would comply with the requirements to prepare a water supply assessment as applicable (PPP UTIL-4 and PPP UTIL-5) and utilize recycled water (PPP UTIL-6) as applicable. Therefore, sufficient water supplies would be available to serve the project, and impacts would be less than significant.	• PPP-UTIL-4 California Water Code Section 10912 and California Government Code Section 66473.7 • PPP-UTIL-5 Senate Bill 221 (SB 221) • PPP-UTIL-6 Requirement to Use Recycled Water	Less than Significant
Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition	Less than Significant	MWRP has an existing surplus treatment capacity of 28 MGD. Buildout of the project is anticipated to increase sewer flows by approximately 2.04 MGD, which is well within the remaining treatment capacity of the MWRP. Additionally, the capacity expansion of MWRP through projects like the Phase 2 Expansion in 2014, which added 7 MGD, has ensured that the plant can	None.	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
to the provider's existing commitments?		accommodate additional demand. The MWRP currently operates at an average of 25 MGD, recycling about 9 billion gallons of water annually. OCSD's Plant No. 1, with a treatment capacity of 320 MGD, also remains capable of accommodating the projected increase in sewer flows. Therefore, the project would not exceed existing wastewater treatment capacity, and impacts would be less than significant.		
Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? or Would the project comply with federal, state, or local management and reduction statutes and regulations related to solid waste?	Less than Significant	Future development would be subject to waste reduction measures to divert solid waste from landfills during construction and demolition (a 65 percent diversion rate per the City's C&D Program) and during operations through composting, recycling, and reuse through resource recovery. The City has a waste diversion goal of reducing organic waste disposal 75 percent by 2025. These goals are consistent with state regulations regarding solid waste, composting, and recycling. The City implements policies to reduce generation of solid waste through the City's debris recycling and reuse ordinance (PPP UTIL-7), waste reduction (PPP UTIL-8) and City standard conditions related to solid waste recycling (PPP UTIL-9 and PPP UTIL14-10). Therefore, the project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, and impacts would be less than significant.	• PPP-UTIL-7 City of Irvine Construction and Demolition (C&D) Debris Recycling and Reuse Ordinance • PPP-UTIL-8 Waste Reduction • PPP-UTIL-9 City Standard Condition 2.24 (Solid Waste Recycling) • PPP-UTIL-10 City Standard Condition 3.7 (Solid Waste Recycling)	Less than Significant
4.15 Wildfire				
Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?	Less than Significant	The Emergency Evacuation Route Analysis both in the City's adopted LHMP and in the updated Safety Element identify potential vulnerabilities in the City in the event of a wildfire. The results of the analysis indicate that residents closest to the southern, northern, and eastern extents of the City are most vulnerable given the distance and number of roads needed to access an outbound road. However, the City has identified adequate evacuation routes in various wildfire scenarios for the vulnerable residents because of modelling and would continue to identify evacuation locations on site during emergency situations. Prior to construction, future development projects would be required to prepare and submit a plan check to the City for approval of adequate emergency access. Approval of new development throughout the City would be conditioned by Standard Condition 3.17 and Standard Condition 4.9 for review by the Irvine Police Department and OCFA to ensure adequate emergency access and compliance with the Emergency Access	• PPP Wildfire-3: Compliance with City Standard Condition 3.17 (Emergency Access Plan) • PPP Wildfire-4: Compliance with City Standard Condition 4.9 (Emergency Access Inspection)	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		Plan requirements (see PPPs Wildfire-3 and -4). Future development would also be designed, constructed, and maintained in accordance with applicable standards associated with the EOP and Emergency Access Plan, including vehicular access to ensure that adequate emergency access and evacuation would be maintained. Therefore, because buildout of the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, impacts would be less than significant. No mitigation would be required.		
Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Less than Significant	Most of the City consists of urban areas that are not designated as a fire severity zone. There is no land within Focus Areas 1 and 2 that are designated with a fire severity rating. Although approximately 1,875 acres of land located in Focus Area 3 is designated as Very High LRA, future housing development would not be located within this area of Focus Area 3. In the unlikely case that development near this area did occur, it would be designed to be consistent with all applicable fire safety requirements. Future development and redevelopment could also occur outside of the proposed focus areas, which may be located along the City boundaries adjacent to land identified as having Moderate, High, or Very High FHSZ designations. For instance, areas within the northeastern portion of the City, which extends through Orange County and into Riverside County to the east, are designated as Very High FHSZ. However, all new site-specific development in these areas is required to prepare a fuel modification plan (PPP Wildfire-1 and Wildfire-2) before approval of tentative maps and grading permits. Therefore, the project would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, and impacts would be less than significant.	• PPP Wildfire-1: Compliance with City Standard Condition 2.19 (Open Space Fuel Modification) • PPP Wildfire-2: Compliance with City Standard Condition 3.14 (HOA/Fuel Modification)	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Less than Significant	Utility infrastructure improvements that are anticipated to serve future development facilitated by the General Plan Update and buildout of the Great Park would be available in adjacent roadways. However, all impacts associated with infrastructure improvements, including any required measures to address fire safety, would be evaluated in their respective subsequent environmental documents for discretionary projects, including application of the City's Municipal Code and existing City building and fire code requirements. All new development would also be subject to review to ensure that adequate defensible space and fuel management zones would be implemented to avoid potential ignition risks around the associated infrastructure, such as power lines or other utilities. Furthermore, the Safety Element Update would include objectives and policies further supporting the City's goal of ensuring adequate infrastructure with respect to wildfires. Therefore, compliance with applicable PPPs would ensure that installation or maintenance of associated infrastructure associated with the project would not exacerbate fire risk, and impacts would be less than significant.	• PPP Wildfire-4: Compliance with City Standard Condition 4.9 (Emergency Access Inspection)	Less than Significant
Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Less than Significant	Future development would be required to demonstrate that site-specific projects would be elevated out of the floodplain and would not affect the conveyance of flood waters through elevated building pads, and/or other compliance measures as specified by FEMA. Local guidance prohibits development within a flood zone unless adequate assurances are provided against flood hazards (see Zoning Ordinance Section 5-2-24 Standards of construction for flood hazard zones). These include anchoring structures, constructing structures with materials and utility equipment resistant to flood damage, constructing the structure above the base flood elevation, and certification by a registered professional engineer or surveyor, and verification by the City's Chief Building Official. The Safety Element Update also includes objectives and policies that further support the City's goals related to flood prevention. Future development under the project would be required to adhere to safety requirements in the Municipal Code requirements related to the City's Building Code, Grading Code, and Grading Manual which would reduce impacts related to	• PPP Wildfire-5: Compliance with City Standard Condition 2.11 (Special Flood Hazard Area) • PPP Wildfire-6: Compliance with City Standard Condition 3.4 (Special Flood Hazard Area) • PPP Wildfire-7: Compliance with City Standard Condition 4.5 (Flood Certification for Finished Construction)	Less than Significant

Table S-1 Summary of Environmental Impacts				
Threshold	Level of Significance Before Mitigation	Environmental Impact	Plans, Programs, and Polices [PPPs], Project Design Features, and Mitigation Measures	Significance After Mitigation
		landslide to a level less than significant. Furthermore, the updated Safety Element includes Goal 2, which aims to improve the community's resilience to seismic and geologic hazards with supporting policies aimed at coordination with local water agencies to reduce liquefaction and subsidence events and to strengthen utilities to minimize such impacts to local infrastructure. Compliance with and goals, objectives, and policies in the updated Safety Element would serve to further lessen such impacts. Therefore, compliance with applicable PPPs would ensure that the project would not increase risks associated with post-fire flooding or landslides, and impacts would be less than significant.		

Chapter 1.0
Introduction

1.1 Type of EIR

This Program Environmental Impact Report (PEIR; State Clearinghouse House [SCH] No. 2023070463) has been prepared consistent with Section 15168 of the California Environmental Quality Act (CEQA) Guidelines to address potential environmental effects associated with implementation of the City of Irvine (City) 2045 General Plan Update (project).

As described in Section 15168 of the CEQA Guidelines, program level environmental review documents are appropriate when a project consists of a series of actions related to the issuance of rules, regulations, and other planning criteria. The project that is the subject of this PEIR consists of a comprehensive update to the existing General Plan and updates to the City's Land Use and Zoning Maps and Zoning Ordinance, which will serve as the long-term policy documents guiding future development. The purpose of this program level PEIR is intended to inform decision-makers and the general public of the potential significant environmental impacts of the project. This program level EIR also considers the availability of mitigation measures as required by Section 15126.4 of the State CEQA Guidelines to minimize the project's significant impacts and evaluates reasonable alternatives to the project that may reduce or avoid one or more significant environmental effects as required by Section 15126.6 of the CEQA Guidelines.

1.2 List of Project Approvals

The project would require City Council approval of the following project components:

- 2045 General Plan Update
  - Land Use Element (Update)
    - Incorporates existing Irvine Business Complex Element
    - Incorporates existing Growth Management Element
  - Circulation Element (Update)
  - Conservation and Open Space Element (Update)
    - Incorporates existing Parks and Recreation, Public Facilities and Services, and Cultural Resources Elements
  - Safety Element (Update)
    - Incorporates existing Seismic Safety Element
  - Noise Element (Update)
  - Environmental Protection and Climate Action Element (New)
    - Incorporates existing Integrated Waste Management Element
    - Incorporates existing Energy Element

Additionally, the project would require approval of the following discretionary actions:

- Adopt a General Plan Amendment updating the General Plan elements and City's Land Use Map.
- Adopt a Zone Text Amendment to revise applicable sections of the Zoning Ordinance affected by the residential and residential mixed-use overlay program.
- Adopt a Zoning Map Amendment to illustrate the proposed overlay program.
- Certify the PEIR.
- Adopt the Mitigation Monitoring and Reporting Program.
- Adopt the Statement of Overriding Considerations.

1.3 Statement of Legal Authority

The City is the Lead Agency for the project pursuant to Article 4 (Sections 15050 and 15051) of the State CEQA Guidelines. The Lead Agency, as defined by State CEQA Guidelines Section 15367, is the public agency which has the principal responsibility and authority for carrying out or approving a project. The analysis and findings in this document reflect the independent, impartial conclusions of the City.

1.4 Responsible/Trustee Agencies

State law requires that all EIRs be reviewed by Responsible and Trustee Agencies. A Responsible Agency, defined pursuant to State CEQA Guidelines Section 15381, includes all public agencies other than the Lead Agency which have discretionary approval power over the project. A Trustee Agency is defined in Section 15386 of the State CEQA Guidelines as a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the state of California. Implementation of the project would require subsequent actions or consultation from Responsible or Trustee Agencies. A brief description of some of the primary Responsible or Trustee Agencies that may have an interest in the project is provided below.

1.4.1 U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) has jurisdiction over development in or affecting the navigable waters of the United States. All permits issued by the USACE are subject to consultation and/or review by the U.S. Fish and Wildlife Service (USFWS) and the U.S. Environmental Protection Agency (U.S. EPA). Streambeds and drainages occurring in the City may contain wetlands, which may be classified as jurisdictional waters of the United States. No permits from USACE are required at this time; however, development that could occur with implementation of the project may require review and/or USACE permits in the future.

1.4.2 California Department of Transportation

Multiple California Department of Transportation (Caltrans) facilities are located within or adjacent to the City. State Route 55 (SR-55) runs adjacent and outside of the northern edge of the City limits (east and west direction). State Route 73 (SR-73) runs adjacent to the western edge of the City limits.

State Route 241 (SR-241) is a toll road that runs adjacent to the eastern edge of the City limits. State Route 133 (SR-133) bisects the City (east and west direction), and Interstate 5 (I-5) and Interstate 405 (I-405) splits at the southern boundary of the City from I-5 and continues through the center of the City in the north and south direction. No permits from Caltrans are required at this time; however, Caltrans approval would be required for any encroachments or construction of facilities in a Caltrans right-of-way associated with future development within the City.

1.4.3 California Department of Fish and Wildlife

An Agreement Regarding Proposed Stream or Lake Alteration (Streambed Alteration Agreement) with an agency or private party proposing to alter the bed, banks, or floor of any watercourse/stream, is under the authority of the California Department of Fish and Wildlife (CDFW) pursuant to Section 1600 et seq. of the California Fish and Game Code. The purpose of Code Sections 1600-1616 is to protect and conserve fish and wildlife resources that could be substantially adversely affected by a substantial diversion or obstruction of natural flow of, or substantial change or use of material from the bed, bank, or channel of, any river, stream, or lake. Streambeds and other drainages occurring within the City may contain wetlands. No permits from CDFW are required at this time; however, future development that could occur with implementation of the project may require review and/or Streambed Alteration Agreements in the future.

1.4.4 California Regional Water Quality Control Board - Santa Ana Region

The California Regional Water Quality Control Board (RWQCB) - Santa Ana Region regulates water quality through the federal Clean Water Act Section 401 certification process and oversees the National Pollutant Discharge Elimination System (NPDES), to protect water resources and control pollutants in runoff. The RWQCB is responsible for implementing permitting, compliance, and other activities to reduce pollutants in municipal, construction, and industrial storm water runoff. No permits from RWQCB are required at this time; however, future development that could occur with implementation of the project may require review and/or Section 401 certifications.

1.4.5 Orange County Airport Land Use Commission

The Airport Land Use Commission (ALUC) is governed by the Public Utilities Code Section 21670 and has a basic responsibility to assist local agencies in ensuring compatible land uses in the vicinity of all airports in the County. The ALUC reviews land use proposals near civilian and military airports and other land use issues which have a potential impact on airport operations. As a Responsible Agency, the Orange County ALUC would review future development proposals within the City, as applicable, and make "consistency determinations" with the provisions and policies set forth in the Airport Environs Land Use Plan for John Wayne Airport (Orange County Airport Land Use Commission, 2008) as well as with the General Plan Update. While ALUC is not an implementing agency in the manner of local governments and does not issue project permits, each local agency having jurisdiction over any area within the airport planning areas is required to submit its general plans for that area to the ALUC for a consistency/inconsistency determination prior to adoption by the local agency in

accordance with the Government Code for the State of California, Section 65302.3 and Public Utilities Code Section 21676.

1.4.6 California Coastal Commission

The California Coastal Act of 1976 established the California Coastal Commission to regulate the use of land and water in the coastal zone. Development activities, which are broadly defined by the Coastal Act to include construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government.

The project would require an amendment to the City's Local Coastal Program to ensure consistency between the land use updates included as part of the project and the Local Coastal Program. The Local Coastal Program amendment is required to be reviewed and processed by the California Coastal Commission, a process that would start immediately following project approval. Once approved, any future development under the project that would be located within the coastal zone would be required to comply with development standards and applicable policies in the City's Local Coastal Program.

1.5 PEIR Scope

The scope of analysis for this PEIR was determined by the City as a result of initial project review, consideration of agency and public comments received in response to the Notice of Preparation (NOP), which was circulated on July 21, 2023, and a scoping meeting was held virtually via video conferencing on Tuesday, August 1, 2023. The NOP circulated for analysis of the project, related letters received, and comments made during the scoping meeting are included as Appendix A of this PEIR.

The comments received during the NOP period generally included resident concerns over an increase in residential density on existing infrastructure, public services, and traffic congestion, requests from local developers to include analysis for sites suited for higher density development, and concurrence from the local cultural resource focused non-profit organization regarding culturally sensitive areas identified in the NOP. In addition, the Department of Conservation, California Geologic Survey identified recommendations concerning geologic issues related to the project area. The Irvine Unified School District provided enrollment and capacity data with a request for analysis to focus on impacts to capacity, need for future facilities, and on transportation and greenhouse gas emission impacts. The Orange County ALUC also provided comment on the airport review process for future development, including applicable regulations to include in the EIR, and noted that per Section 21676 of the Public Utilities Code, the ALUC must review the adoption or amendment of a general plan prior to local agency adoption.

A brief overview of each PEIR chapter is provided below:

Executive Summary: Summarizes the PEIR by providing an overview of the project, analysis of the potentially significant environmental impacts that could result from the project, a list of mitigation

measures identified to reduce or avoid such impacts, a review of the alternatives to the project, including the identification of an environmentally superior alternative to the project.

1.0 Introduction: Provides an overview of the applicable legal authority, introduces the purpose for the PEIR and explains the PEIR process and the intended uses of the PEIR.

2.0 Environmental Setting: Provides a description of the project's regional context, location, and existing physical characteristics and land use within the City. More detailed descriptions of the environmental context pertaining to specific environmental topics are provided in each section of Chapter 4: Environmental Analysis.

3.0 Project Description: Provides a detailed description of the project, including the purpose and objectives of the project and descriptions of each component of the project.

4.0 Environmental Analysis. Analyzes the environmental impacts of the project. Impacts are organized by the following topic areas:

- 4.1 Aesthetics
- 4.2 Air Quality
- 4.3 Biological Resources
- 4.4 Cultural and Tribal Cultural Resources
- 4.5 Geology and Soils
- 4.6 Greenhouse Gas Emissions
- 4.7 Hazards and Hazardous Materials
- 4.8 Hydrology/Water Quality
- 4.9 Land Use and Planning
- 4.10 Noise
- 4.11 Population/Housing
- 4.12 Public Services and Recreation
- 4.13 Transportation
- 4.14 Utilities and Service Systems
- 4.15 Wildfire

Each topic area respectively provides a contextual description of the project's environmental setting, significance criteria, methodology, and potential impacts (project-level and cumulative).

5.0 CEQA Mandated Analysis: Summarizes the project's significant and unavoidable environmental impacts, significant irreversible environmental changes, and growth-inducing impacts per State CEQA Guidelines Section 15065 Mandatory Findings of Significance.

6.0 Effects Found Not to be Significant: This chapter identifies all the issues determined in the scoping and preliminary environmental review process to be not significant based on CEQA criteria, and briefly summarizes the basis for these determinations. These topics include agricultural and forestry resources, energy, and mineral resources.

7.0 Project Alternatives: This chapter presents a reasonable range of alternatives to the project and includes the following:

- A discussion of the environmental impacts associated with each alternative,
- A comparison of the relative impacts of each alternative to those of the project,
- A discussion of the relationship of each alternative to the project's objectives, and
- Identification of the environmentally superior alternative.

8.0 References: Lists documents incorporated by reference, and other information sources (documents and websites) relied upon in the preparation of the PEIR and identifies the persons and organizations that contributed to the preparation of the PEIR.

9.0 List of Preparers: Lists persons involved in the preparation of the PEIR.

Technical appendices, used as a basis for portions of the environmental analysis in the PEIR, have been summarized in the PEIR, and are included as attachments to the PEIR.

1.6 PEIR Intended Use and Review Process

1.6.1 PEIR Intended Use

This document is intended to be used by the City, as Lead Agency, in evaluating the project and to ensure compliance with applicable regulations and mitigation framework included in this PEIR. As a PEIR, this document is intended to be used by the City when acting on subsequent applications for consideration of future development within the City.

1.6.2 PEIR Process

The PEIR review and certification process occurs in two basic stages. The first stage is the Draft PEIR, which offers agencies and the public the opportunity to comment on the document. The second stage is the Final PEIR, which provides the basis for approving the project.

1.6.2.1 Draft PEIR

In accordance with Sections 15085 and 15087(a)(1) of the State CEQA Guidelines, upon completion of the Draft PEIR a Notice of Completion is filed with the State Office of Planning and Research and Notice of Availability of the Draft PEIR is issued in a newspaper of general circulation in the area.

The Draft PEIR is distributed for review to the public and interested and affected agencies for the purpose of providing comments "on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated" (Section 15204, State CEQA Guidelines). The Draft PEIR was circulated for public review for a period commencing March 15 through April 29, 2024 (Public Review Period). The Draft PEIR and all related appendices have been made available for public review and inspection

during the Public Review Period at City Hall, located at 1 Civic Center, Irvine, California, and on the following webpages:

- https://www.cityofirvine.org/community-development/current-environmental-reviews
- https://www.cityofirvine.org/community-development/events-irvine-2045

Copies of the Notice of Availability of the Draft PEIR were also available at the City's three public library branches at the following locations:

- Heritage Park, located at 14361 Yale Avenue
- University Park, located at 4512 Sandburg Way
- Katie Wheeler, located at 13109 Old Myford Road

1.6.2.2 Final PEIR

Following public review of the Draft PEIR, the City will provide written responses to comments per State CEQA Guidelines Section 15088 and will consider all comments in making its decision whether to certify the Final PEIR. Responses to the comments received during public review, associated revisions to the Draft PEIR sections, a Mitigation Monitoring and Reporting Program, Findings of Fact, and a Statement of Overriding Considerations (if applicable for any impacts identified in the Draft PEIR as significant and unmitigated), will be prepared and compiled as part of the Final PEIR.

The culmination of this process is a public hearing where the City Council will determine whether to certify the Final PEIR as being complete and in accordance with CEQA. The Final PEIR will be available for public review at least 10 days before the City Council makes a recommendation or final determination, in order to provide commenters the opportunity to review the written responses to the PEIR comment letters.

1.6.3 Subsequent Environmental Review

As allowed in State CEQA Guidelines Section 15168, Program EIR, future development proposals will be reviewed by the City in light of the Final PEIR. The PEIR and subsequent project review process, defined in Section 15168 of the State CEQA Guidelines, allows a PEIR to serve as the basis for environmental review of subsequent projects. Sections 15182 and 15183 of the State CEQA Guidelines provide additional review guidance for projects proposed in accordance with an adopted specific plan, or consistent with an adopted community plan, general plan, or zoning.

If any future site-specific projects have potentially significant adverse environmental effects that were not examined in this PEIR, an Initial Study shall be prepared for that project, leading to the preparation of a Mitigated Negative Declaration, Focused EIR, Supplement or Subsequent to this PEIR, or other appropriate environmental documentation. When additional environmental documentation for a new project is necessary, this PEIR may be incorporated by reference to address regional context, secondary effects, cumulative impacts, alternatives, and other factors that apply to the program as a whole.

Chapter 2.0
Environmental Setting

2.1 Planning Context

2.1.1 Project Location

The city of Irvine (City) is located within the coastal foothill region of central Orange County in the state of California. Located approximately two miles inland from the Pacific Ocean and 40 miles south of the city of Los Angeles, the City is bordered by unincorporated Orange County and a number of cities including Tustin, Santa Ana, Lake Forest, Costa Mesa, Newport Beach, Orange, Laguna Woods, and Laguna Hills. Figure 2-1 presents the regional location of the City.

The City is generally bounded on the southwest by State Route 73 (SR-73) and on the northeast by State Route 241 (SR-241). Interstate 5 (I-5), Interstate 405 (I-405), and State Route 133 (SR-133) cross through the central portion of the City, and multiple interstates and state routes traverse the City and provide connection to surrounding communities throughout the southern California region. Air travel is available at John Wayne Airport, located immediately adjacent to the Irvine Business Complex (IBC) in the southwest area of the City.

Development in the City is guided by the City's General Plan, which provides citywide and area-specific goals and policies; and more specifically by the regulations in the City's Municipal Code, Zoning Ordinance, adopted Master Plans, and the Local Coastal Program Land Use Plan. A detailed evaluation of the project's consistency with relevant plans and ordinances is provided in Section 4.9, Land Use and Planning, of this Program Environmental Impact Report (PEIR).

Per the most recent U.S. Census Bureau count from July 2022, the City has a population of approximately 313,685 residents with a varied demographic profile. The University of California, Irvine, is a driving factor in the City's demographics and the top employer in the City. The City has also been rated the safest Big City in the U.S. for 18 consecutive years.

2.1.2 Current Adopted Irvine General Plan

Most recently amended in 2015, the City's General Plan is a comprehensive, long-range vision for future development and preservation encompassing the built and natural environments, as well as the community and economy. The General Plan addresses all geographic areas of the City and its sphere of influence. It also addresses the community's relation to the region, local issues and trends, service priorities, and methods to guide development and conservation of resources (City of Irvine 2024a).

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FIGURE 2-1
Regional Location

The General Plan includes both the mandated elements of the California Government Code Section 65302 as they apply to the local conditions, and optional elements designed to address high priority topics of City interest. The General Plan is kept up to date with current issues, trends, and community needs through periodic amendments. When an amendment occurs, special attention is given to make sure that all components work in harmony and the plan maintains its internal consistency as required by state law.

The General Plan contains seven elements required by the state planning, zoning and development laws. Conservation and Open Space have been combined into a single element. There are also eight optional elements relating to the development of the City. They are as follows:

- Mandated Elements
  - Land Use
  - Circulation
  - Housing
  - Conservation and Open Space
  - Noise
  - Safety
- Optional Elements
  - Public Facilities and Services
  - Integrated Waste Management
  - Energy
  - Parks and Recreation
  - Cultural Resources
  - Growth Management
  - Seismic
  - Irvine Business Complex

It should be noted that the optional elements under the existing General Plan will be incorporated into the mandated elements under the General Plan Update and the City will be adding a new optional Environmental Protection and Climate Action Element.

2.1.3 Prior Planning Initiatives

The City completed several major planning initiatives subsequent to the adoption of the existing General Plan, which are summarized below.

2.1.3.1 2021-29 Housing Element

On May 24, 2022, the California Department of Housing and Community Development certified the 2021-2029 Housing Element. The 6th Cycle 2021-2029 Housing Element was adopted by the City Council on January 11, 2022, and an amended adopted 2021-2029 Housing Element was adopted by the City Council on May 10, 2022.

California Government Code Section 65588 requires that local governments review and revise the Housing Element of their comprehensive General Plans (e.g., Irvine General Plan) no less than once every eight years. Before the 6th Cycle Housing Element Update for the 2021–2029 planning period, the City's Housing Element was updated in 2013 for the 5th Cycle (2013–2021). The 6th Cycle Housing Element Update was prepared to comply with state housing laws, as amended, and federal, state, and local requirements as necessary to demonstrate compliance with state law and to gain state certification (City of Irvine 2024b).

2.1.4 Irvine Focused General Plan Update 2045 Process

The City initially adopted its General Plan in December 1973, and the last comprehensive update occurred in 2000 with as-needed General Plan amendments occurring over the ensuing years. Phase 1 of the 2045 General Plan Update commenced in 2015 with the City conducting face-to-face events, stakeholder meetings, and three surveys. Survey #1 identified community issues and priorities, while Survey #2 built on the results of Survey #1 by focusing on the Vision, Guiding Principles, and goals/topical areas for the Update. As directed by the City Council, an additional public outreach campaign, including Survey #3 and focus groups, commenced in summer 2020 by the City's outreach consultant.

During Phase 2 of the Update, continued input was provided from City commissions, the City Council, and stakeholders that will help serve as the foundation to develop and formulate a draft Update with specific goals, objectives, policies, and future implementation programs. Phase 2 Update work commenced in spring 2022 concurrent with the review process for state certification of the 6th Cycle Housing Element Update. Outreach for Phase 2 of the Update began in fall 2022 and included extensive community outreach efforts in various formats and settings. Community engagement occurred in the form of informational sessions, virtual and in-person workshops, open houses, stakeholder meetings, and pop-up events at City events such as the Great Park Farmer's Market and the Mid-Autumn Festival. The Update is a multi-year, multi-phase project with a completion deadline of mid-October 2024.

2.2 Existing Physical Site Conditions

2.2.1 Land Use

The City is divided into a series of master planned communities or neighborhoods called Planning Areas, with each Planning Area defined by its own character and development goals. Each Planning Area is also designed to serve a diversity of lifestyles. Prior to 2000, residential development was primarily concentrated within the central portions of the City, known as the residential core (Planning Areas 5, 8, 10, 11, 12, 14, 15, 19, 20, 21, 24, 36, 38, and 50). Since 2000, residential growth has occurred outside of the residential core in the Great Park (Planning Area 51), the IBC (Planning Area 36), the Spectrum (Planning Area 33), and the Northern Sphere (Planning Areas 1, 5B, 6, 9, and 40). Each Planning Area has a unique theme which provides a sense of identity through its design and connection with surrounding retail and other amenities. Existing neighborhoods include conveniently located parks and open space, retail, office, and public facilities to support residential development. The convenient location of community facilities, in relation to the residential areas, promotes their viability and vitality (City of Irvine 2015a). The northern and southern hillside areas of the City are largely undeveloped lands. These areas provide views of the surrounding mountains and the ocean. Portions of these hills will eventually be developed with residential units, while other portions will remain as permanent open space. Portions of these hills have been developed into the Great Park Neighborhood and Great Park, while others will eventually be developed with residential units or remain as permanent open space.

2.2.2 Aesthetic/Topographical Features

The City and its sphere of influence are located within the coastal and foothill region of central Orange County. Prominent landforms in the City include the Santiago Hills, northern flatlands, central flatlands, and San Joaquin Hills. The Santiago and San Joaquin Hills have ridgelines that can be seen from various vantage points within the City (including major roadways), while views of the flatlands and the Pacific Ocean can be seen from the higher elevations. San Diego Creek and numerous other washes run through the City. These resources are predominately protected through the City's Conservation/Open Space Dedication Program (City of Irvine 2015a).

The northern and southern hillside areas of the City are largely undeveloped lands. These areas provide a view of the surrounding mountains and the ocean, with much of this area falling within the Orange County Central/Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) area. Under NCCP/HCP protection, development on this land is managed in alignment with habitat preservation and protection agreements and policies.

Table 2-1
Notable Visual Resources in the City

Type of Resource	Examples
Hills	The Santiago Hills and San Joaquin Hills, including canyons, plateaus, narrow ridges, and rock outcroppings
Natural watercourses[1]	San Diego Creek, Agua Chinon Wash, Bee Canyon Wash, Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, Sand Canyon Wash, and San Joaquin Freshwater Marsh
Artificial lakes	Woodbridge Lakes and the William R. Mason Regional Park lakes

SOURCE: City of Irvine 2020a.
[1]Notable visual resources are the natural portions of those watercourses only.

2.2.3 Air Quality and Climate Conditions

The state of California is divided geographically into 15 air basins for the purpose of managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses and therefore are expected to have similar ambient air quality.

The City lies within the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The 6,745-square-mile Basin encompasses Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, and is bound by the Pacific Ocean to the west, the San Gabriel, San Bernardino, and Jacinto mountains to the north and east, respectively, and San Diego County to the south. The City is located within the southwestern portion of the Basin, which encompasses Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties.

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted

infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (SCAQMD 2022).

The most recently published Air Quality Management Plan (AQMP) and State Implementation Plan is the 2022 AQMP. The 2022 AQMP is a comprehensive strategy aimed at achieving and maintaining compliance with federal and state air quality standards. As outlined in the 2022 AQMP, the Basin has nonattainment status for 8-hour ozone, meaning that the region has not met the National Ambient Air Quality Standards (NAAQS) set by the U.S. Environmental Protection Agency (U.S. EPA) for a particular pollutant, in this case, 8-hour ozone.

2.2.4 Cultural and Tribal Cultural Resources

The City is located within the traditional territory of Indigenous Peoples who, after Spanish contact in historic times, were called the Gabrieleno. See Section 4.4 for a full discussion of tribal chronology. The largest concentrations of archaeological sites in the City exist in the Upper Newport Bay and the Santiago and San Joaquin Hills. The majority of archaeological resources in the City reflect the historical settlements and activities of the Gabrieleno people (also known as the Tongva), who began occupying the area approximately 3,000 years ago, and the Juaneño (also known as Acjachemen), who began occupying the area nearly 1,300 years ago.

Historical resources include current and former locations of historic buildings, historical archaeological sites (often near historic use areas), and the location of extant historic homes more than 45 years old. Old Town Irvine has the highest number of historic buildings.

2.2.5 Geology and Soils

The City is located within the northern extent of the California Geomorphic Province known as the Peninsular Ranges. The Peninsular Ranges geomorphic province extends from Mount San Jacinto in the north, through the tip of Baja, Mexico in the south. Subparallel to these ranges on the east is the San Andreas fault zone. The northwestwards motion of the Pacific Plate has created these ranges and their corresponding valleys.

The City and its sphere of influence are affected by both local and regional active faults. There are multiple regional faults located within Alquist-Priolo special study zones close to the City; however the City itself is not in an Alquist-Priolo earthquake fault zone. These faults pose potential seismic hazards in the event of an earthquake along any of them. Notable fault zones include the Newport-Inglewood-Rose Canyon fault zone (about 1.5 miles west of Irvine), Pelican Hill fault (around 1.5 miles west of Irvine), El Modena fault (approximately 5 miles north of Irvine), and Peralta Hills fault (roughly 5 miles north of Irvine).

Although several faults have been identified within the City itself, they are deemed inactive, having not exhibited surface movement in the past 13,000 years. Consequently, they are not subject to delineation within a special study zone. The San Joaquin Hills blind thrust fault is the only known fault that runs through Irvine and travels in an east-west/southeasterly direction through the City. The City and sphere of influence are located in Seismic Zone 4, as identified in the Uniform Building

Code. This zone indicates the highest classification of the four zones in the United States, with the most stringent requirements for building design.

2.2.6 Hydraulic Conditions

The City resides primarily within the Newport Bay Watershed, which is defined by the foothills of the Santa Ana Mountains to the east (Loma Ridge) and the San Joaquin Hills to the west and southwest. The Newport Bay Watershed is a part of the larger Orange County Watershed Management Areas (WMA), which is split into a south, north, and central WMA. The total area of the Newport Bay Watershed is approximately 154 square miles (98,500 acres) of the Central Orange County WMA. Each watershed is comprised of channels that ultimately deliver stormwater to the Pacific Ocean. Santa Ana Delhi Channel, Bonita Creek, Borrego Creek, Peter Canyons, San Diego Creek Reach 1, and Newport Bay City drain to the City's receiving water bodies.

The southwestern portion of the City is located within the Laguna Coastal Streams Watershed. Laguna Canyon Creek runs north to south, directly through the middle of its watershed, and ultimately discharges into the Pacific Ocean at Laguna Beach. The 11-square-mile watershed also includes portions of the cities of Aliso Viejo, Laguna Beach, Laguna Woods, and portions of unincorporated Orange County. Laguna Canyon Creek runs parallel to Laguna Canyon Road, underneath the San Joaquin Hills Transportation Corridor, through the city of Laguna Beach, and underneath the Pacific Coast Highway, before emptying into the Pacific Ocean. The creek is joined by a few small, unnamed drainages and larger tributaries as it makes its way through the watershed.

Surface water quality in the City is regulated by the Santa Ana Regional Water Quality Control Board (RWQCB). The Santa Ana Regional Water Quality Control Board Basin Plan (Basin Plan) (California Water Boards, Santa Ana – Region 8 2008) establishes water quality standards for all the ground and surface waters of the region. The Santa Ana RWQCB currently identifies five water bodies within the City as currently on the 303(d) list: Bonita Creek, Borrego Creek, Peter Canyons, San Diego Creek Reach 1, and Upper Newport Bay. The 303(d) list is a roster of waters failing to meet established water quality standards including beneficial uses, requisite water quality objectives to safeguard these uses, and the antidegradation policy, all detailed in the Basin Plan. Once a water body makes it onto the 303(d) List, it remains listed until the adoption of a Total Maximum Daily Loads targeting the pollutants responsible for standards violation and attainment of water quality standards are established, or until adequate data supports delisting due to standard compliance. See Section 4.8, Hydrology/Water Quality for a complete discussion of the existing hydrological setting of the City.

2.2.7 Noise

The most pervasive noise in the City comes from mobile noise sources such as motor vehicles, railroads, and aircraft. Major freeways including Santa Ana (I-5), San Diego (I-405), and Eastern Transportation Corridor toll roads (SR-133 and SR-261), railroad lines including Amtrak and Metrolink, and the John Wayne Airport (SNA) expose the City to significant noise impacts. Aircraft flight tracks also impact particular areas of the City. Aircraft noise generally affects areas within the airport vicinity during takeoffs and landings, and areas located around the flight tracks. Airborne noise sources currently include civil air operations at John Wayne Airport (City of Irvine 2015b). The City is also exposed to noise emanating from sources such as industrial, commercial, and construction activities.

Railway lines that pass through the central part of the City in an east/west direction are located on right-of-way that is owned and managed by the Orange County Transportation Authority. The railroad operation includes commuter trains and freight trains. There are also spur lines located within the IBC (Planning Area 36) and Irvine Spectrum Area (Planning Area 35). The noise generated by these spur lines is insufficient to provide community noise equivalent level contours in excess of 60 decibels outside the right-of-way.

2.2.8 Transportation

I-5 and I-405 bisect the City in an east/west alignment. SR-261 and SR-133 bisect the City along a north/south alignment, and SR-241 forms the northern boundary of the City, while SR-73 forms the southern boundary. The City is served by multiple modes of transportation, including bus, commuter rail, train, biking, and walking. The City partners with the Orange County Transportation Authority (OCTA), Amtrak, Metrolink, and Spectrumotion (City of Irvine 2020b).

The iShuttle is operated and managed by the OCTA and serves employees and employers to and from work. In the Irvine Spectrum Area, the iShuttle provides service to and from the Irvine Station and in the IBC it carries commuters to and from the Tustin Station. The OCTA also provides ACCESS which is a shared-ride service for people who are unable to use the regular, fixed-route bus service because of functional limitations caused by disability. Spectrumotion is a rideshare association that helps City residents commute to the Irvine Spectrum area.

The Irvine Station, located in the Spectrum area of the City, is a transportation hub in south Orange County, serving over one million commuters annually prior to the COVID pandemic. It is served by Amtrak and Metrolink. Amtrak is an intercity rail system that operates throughout the nation and has several stops throughout Orange County and southern California. Metrolink is a commuter rail system throughout southern California linking communities to employment and activity centers.

The Irvine Transit Vision, completed in 2022, recommended a Yale-Barranca route to connect residents in the heart of the City with parks, schools, community centers, hospitals, shopping centers, and the Irvine Station. A pilot of the Irvine CONNECT service will begin in spring 2024.

2.2.9 Utility and Services

Residential, institutional, regional commercial, and industrial solid waste is presently collected by private firms, with residential and village commercial collections franchised by the City. The waste collected is transported directly to the Frank Bowerman landfill, which is located north of Sand Canyon Avenue in Planning Area 3 (Limestone Canyon-Open Space) and is operated by the County of Orange. A solid waste transfer station also exists within Planning Area 36 (IBC).

The City's existing wastewater system is primarily managed by the Irvine Ranch Water District. The Orange County Sanitation District provides service to Planning Area 36 only. Most of the City's wastewater is collected and then treated at the Michelson Reclamation Plant located in Planning Area 23 (San Joaquin Marsh). The plant was constructed in 1966 and expanded in 1980 to its present capacity of 15.0 million gallons per day. Most treatment effluent from the plant is used in agricultural

and landscape irrigation, with some excess pumped to the Orange County Sanitation District for disposal.

2.2.10 Biological Resources

The City consists primarily of urban development, although natural habitat exists in the northern portion of the City, as well as south of I-405. There are 33 special status plant species known to occur historically in the region of the City. Ten of these species have been reported within the City or just outside the City limits (see Section 4.3). A variety of resident and migratory wildlife species are present within the City. Many of the resident species have adapted to survival within the interface of the urban lands and adjacent open space, parks, and preserves. The City provides habitat for both common and special status species including invertebrates, amphibians, reptiles, birds, and mammals. There are 59 special status wildlife species known to occur historically within the region. Twenty-four of these species have been reported within the City or just outside the City limits. Critical habitat has been designated by the U.S. Fish and Wildlife Service for two species within the City: Riverside fairy shrimp (*Streptocephalus woottoni*) and coastal California gnatcatcher (*Polioptila californica californica*) (see Section 4.3).

Chapter 3.0
Project Description

Consistent with Section 15168 of the California Environmental Quality Act (CEQA) Guidelines, this Program Environmental Impact Report (PEIR) provides a programmatic analysis of the potential environmental impacts associated with implementation of the goals, policies, actions, and projected buildout of the City of Irvine (City) 2045 General Plan Update (project). As described in Section 15168 of the CEQA Guidelines, program-level environmental review documents are appropriate when a project consists of a series of actions related to the issuance of rules, regulations, and other planning criteria. The project, which is the subject of this PEIR, is pursued by the City to provide long-term policy direction and to guide future development. In addition to providing long-term policy direction, the City is required to update the appropriate elements of the General Plan to accommodate the residential site inventory from the 6th Cycle Housing Element Update effective 2021 to 2029 (2021-2029 Housing Element) (adopted in May 2022) and to ensure consistency with state law guiding the contents of required General Plan elements.

In accordance with timeframes established by state law, the City previously prepared and adopted the 2021-2029 Housing Element. The 2021-2029 Housing Element identified and analyzed the City's existing and projected housing needs and presents a detailed outline and work program of the City's goals, policies, quantified objectives, and programs for the preservation, improvement, and development of housing for a sustainable future. The 2021-2029 Housing Element identifies ways in which the housing needs of all economic segments of the community, including residents and the local workforce, can be met. The overall goal of the 2021-2029 Housing Element is to provide safe and decent housing for all socioeconomic segments of the community. The overall goal of the 2021-2029 Housing Element is to provide safe and decent housing for all socioeconomic segments of the community.

As a general plan update, the project area would be citywide. The City itself is located within the coastal foothill region of central Orange County in the state of California. Located approximately two miles inland from the Pacific Ocean and 40 miles south of the city of Los Angeles, the City is bordered by unincorporated Orange County and a number of cities including Tustin, Santa Ana, Lake Forest, Costa Mesa, Newport Beach, Orange, Laguna Woods, and Laguna Hills. Figure 2-1 presents the regional location of the City.

3.1 Project Background and History

California state law requires each city and county to adopt a general plan for its physical development. A general plan is a key tool that addresses a variety of subject areas and expresses the community's development goals related to future land uses in the jurisdiction.

Incorporated in 1971, the City of Irvine adopted the first General Plan in December 1973. The City's General Plan was last comprehensively updated in 2000 and has been updated over the years to address necessary General Plan amendments. Since 2000, the City has continued to grow, as the

community has matured and evolved. In 2000, the City still had a significant amount of "greenfield" (vacant land utilized as farmland in the interim or generally undeveloped land) that was available for development. Now, there is limited greenfield land available, and such, the project seeks to address opportunities for infill and redevelopment. The purpose of the project is to provide long-term policy direction; provide a blueprint guiding future development in the City; and communicate the vision, values, and goals for the City's physical development and overall quality of life.

The 2021-2029 Housing Element Regional Housing Needs Assessment (RHNA) allocation for the City is 23,610 units. To ensure consistency with housing statute, including no-net loss and affirmatively furthering fair housing requirements, the 2021-2029 Housing Element identified adequate sites to accommodate 57,656 new residential units. To implement the Housing Element, the project would adopt a residential and residential mixed-use overlay zone that would allow greater flexibility for property owners and developers proposing residential development projects with affordable housing units in areas currently zoned for nonresidential uses.

The existing General Plan includes both the mandated elements of the State Government Code Section 65302 as they apply to the local conditions, and optional elements designed to address high priority topics of City interest. The General Plan is kept up to date with current issues, trends, and community needs through periodic amendments. When an amendment occurs, special attention is given to make sure that all components work in harmony and the plan maintains its internal consistency as required by state law.

The City's existing General Plan contains seven elements required by the State Planning, Zoning and Development Laws. Conservation and Open Space have been combined into a single element. There are also eight optional elements relating to the development of the City. They are as follows:

- Mandated Elements
  - Land Use
  - Circulation
  - Housing
  - Conservation and Open Space
  - Noise
  - Safety
- Optional Elements
  - Public Facilities and Services
  - Integrated Waste Management
  - Energy
  - Parks and Recreation
  - Cultural Resources
  - Growth Management
  - Seismic
  - Irvine Business Complex

The project would update the City's existing General Plan elements to reflect consistency with the adopted Housing Element and state law governing the contents within general plans. As part of the project, existing optional elements under the adopted General Plan will be incorporated into the mandated elements under the General Plan update and the City will be adding the Environmental Protection and Climate Action Element. Following project approval, the City's General Plan will include the following:

- Mandated Elements
  - Land Use
    Incorporates information from existing Growth Management and Irvine Business Complex Elements
  - Circulation
  - Housing
  - Conservation and Open Space
    Incorporates information from existing Parks and Recreation, Public Facilities and Services, and Cultural Resources Elements
  - Noise
  - Safety (includes information from Seismic Safety Element)
- Optional Elements
  - Environmental Protection and Climate Action Element
    Incorporates information from existing Energy, Public Facilities and Services, and Integrated Waste Management Elements

3.2 Project Objectives

In accordance with CEQA Guidelines Section 15124(b), the following primary objectives support the purpose of the project, assist the Lead Agency in developing a reasonable range of alternatives to be evaluated in this report, and ultimately aid decision-makers in preparing findings and overriding considerations, if necessary. The project objectives are as follows:

1. Implement land use changes necessary to implement the City's 2021-2029 Housing Element.
2. Identify areas of opportunity and provide options to enhance development in key focus areas of the City while maintaining the City's signature master plan concept.
3. Implement citywide policy direction to support a high quality-of-life for residents, businesses, and visitors into the future, including a focus on health and wellness.
4. Identify additional sites for residential and/or residential mixed-use development throughout the City using overlay zones to allow greater flexibility for property owners and developers.
5. Implement Phase 2 of the Great Park Framework Plan to serve residents and visitors in the City.
6. Extend Ada roadway between the Irvine Train Station and Marine Way to better support residential uses and improve multi-modal connectivity.

3.3 Project Description

The project would update the General Plan Land Use Element to support the City's RHNA allocation of 23,610 units. Table 3-1 provides a breakdown of the City's RHNA allocation by income category. As previously stated, the 2021-2029 Housing Element identified adequate sites to accommodate 57,656 new residential units to ensure consistency with housing statute, including no-net loss and

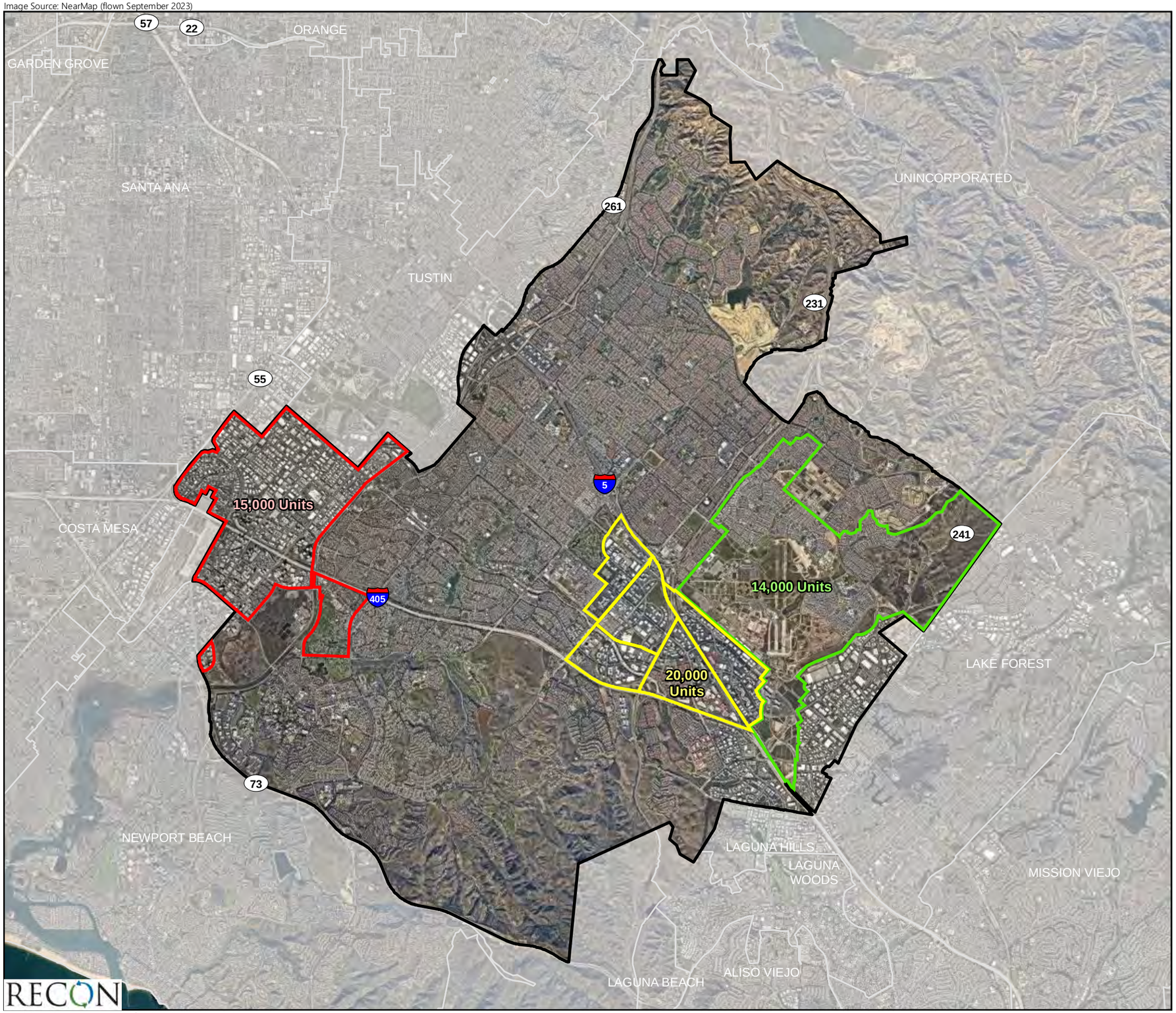
affirmatively furthering fair housing requirements. The 57,656 new residential units consist of 55,395 new dwelling units and 2,261 unbuilt units already in the General Plan.

Table 3-1 Regional Housing Needs Allocation (2021–2029)	
Income Category	Total Units
Extremely Low/Very Low Income (0–50 percent Area Median Income (AMI)	6,396
Low Income (51–80 percent AMI)	4,235
Moderate Income (80–120 percent AMI)	4,308
Above Moderate Income (Above 120 percent AMI	8,671
TOTAL	**23,610**

The project would accommodate the City's RHNA requirement and implement the 2021-2029 Housing Element through the introduction of additional residential and/or residential mixed-use development throughout the City using overlay zones that would allow greater flexibility for property owners and developers proposing to develop affordable housing projects. The overlays would promote higher density residential and mixed-use in three focus areas that are most suited for new growth and development as they are located near existing job centers and are along major travel corridors with access to existing and future public transit opportunities. Figure 3-1 presents the boundaries of the three focus areas. Descriptions of the three focus areas are presented below:

- Focus Area 1 would consist of the Greater Irvine Business Complex Area. This focus area includes Planning Area 36 (Irvine Business Complex) and Planning Area 19 (Rancho San Joaquin). Land use changes within Focus Area 1 include expanding a residential and/or mixed-use overlay to the entire Irvine Business Complex (IBC) and the specific sites identified in the 2021-2029 Housing Element site inventory located in Rancho San Joaquin. Over the past 20 years, the IBC has transitioned from predominantly nonresidential uses to a mixed-use area that is currently governed by the 2010 IBC Vision Plan. Under the existing General Plan, the IBC is allowed a maximum of 15,000 base units. The IBC continues to be one of the two employment centers located within the City and remains an opportunity area for high density residential development. The IBC is connected to the Tustin Transportation Center (Metrolink and Orange County Transportation Authority [OCTA]) transit service) through the iShuttle and has direct access to Interstate 405, State Route 73, and State Route 55. The project proposes to increase the total number of residential permitted in the Greater IBC area by an additional 15,000 units.

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1 - PA 36 and 19
Focus Area 2 - PA 12, 13, 31, 32, and 33
Focus Area 3 - PA 51

0 Miles 1.5

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FIGURE 3-1
2045 General Plan Update Focus Areas

- Focus Area 2 would consist of the Greater Spectrum Area. This focus area includes Planning Area 13 (Irvine Spectrum 4), Planning Area 31 (Irvine Spectrum 6), Planning Area 32 (Irvine Spectrum 3), Planning Area 33 (Irvine Spectrum Center), and a portion of Planning Area 12 (Oak Creek). The Greater Spectrum Area incorporates three nonresidential Planning Areas (13, 31, and 32) that are located adjacent to the Irvine Spectrum Center area, emerging employment centers, and the Irvine Transportation Center (Metrolink, Amtrak, and OCTA transit service). With the introduction of a residential overlay, this area could transition to a network of micro-villages or residential nodes, connected by a variety of multi-modal and complete street strategies that provide new opportunities for residents and businesses in Irvine. The project would increase the residential intensity in Focus Area 2 by an additional 26,607 residential units.

- Focus Area 3 would consist of the Great Park Neighborhood Transit Village. This focus area would include Planning Area 51 (Great Park Neighborhood), which is an existing mixed-use area that features a mix of residential products at varying densities surrounding the Irvine Great Park. While the Great Park area has undergone significant development in recent years, a significant amount of Planning Area 51 remains vacant with no additional residential intensity. The project would increase the number of residential units permitted in the Great Park with a focus on higher density residential uses located near or adjacent to the Irvine Transportation Center. The Great Park Neighborhood Transit Village area would have direct access to Focus Area 2 (Greater Spectrum Area) through a network of proposed multi-modal improvements. The project would increase the residential intensity in Planning Area 51 with an additional 5,252 residential units.

The project would accommodate the remaining 8,536 residential units required by the City's RHNA assessment outside of the focus areas throughout the City. The remaining 8,536 residential units would be permitted throughout the City by increasing the number of dwelling units permitted to be developed in these areas both in the General Plan and Zoning Ordinance. Projects proposed outside of the three focus areas would be entitled using the City's existing development standards and entitlement procedures.

New development proposed under the project would be developed to be consistent with the Land Use Element, which encouraged a proximity village approach, building upon the City's current approach to master planning in the City. Utilizing a proximity village approach to planning would ensure that future development is balanced with a mix of uses including neighborhood-serving nonresidential square footage (retail, restaurants, medical offices, etc.) and parks and open space uses that are connected through multi-modal transportation and complete street strategies. Table 3-2 presents the distribution of proposed residential units within various Planning Areas throughout the City under the project, as well as the distribution of proposed residential units within various Planning Areas throughout the City under the Reduced Project Alternative, which is discussed in detail in Section 7.2.2 of this PEIR.

In addition to the RHNA residential component, the project includes additional nonresidential land uses in the Irvine Great Park (Great Park). Phase 1 of the Great Park Framework Plan is in the baseline (no build condition) and the remaining land uses supporting the buildout of the Great Park Framework (200 acres in total) are included as part of the project. Phase 2 (or the remaining buildout

of the Great Park) includes the following: a botanical garden, a veteran's memorial garden, a library, a discovery center, two museums, a 65-acre central park area, an accessory restaurant use, an aquatic center, an all-wheel park, and pickleball courts.

The project also includes the extension of the Ada roadway from its current terminus in the parking lot of the Irvine train station south of the Southern California Railroad Authority (SCRRA) railroad tracks to extend north under the railroad tracks to meet the future Marine Way extension north of the railroad tracks. The Ada roadway extension between the Irvine train station and Marine Way provides multi-modal connectivity to support the residential uses.

Table 3-2
Proposed Housing Units

Focus Area	Project Dwelling Units	Reduced Project Alternative Dwelling Units
Focus Area 1		
PA 19 (Rancho San Joaquin)	2,202	2,111
PA 36 (Irvine Business Complex)	12,798	9,131
Total Focus Area 1	**15,000**	**11,242**
Focus Area 2		
PA 12 (Oak Creek)	4,907	3,670
PA 13 (Irvine Spectrum 4)[1]	0	0
PA 31 (Irvine Spectrum 6)	2,934	256
PA 32 (Irvine Spectrum 3)	17,817	14,936
PA 33 (Irvine Spectrum Center)	949	949
Total Focus Area 2	**26,607**	**19,811**
Focus Area 3		
PA 51 (Great Park)	5,252	5,252
Total Focus Area 3	**5,252**	**5,252**
Non-Focus Areas		
PA 4 (Lower Peters Canyon)	357	293
PA 6 (Portola Springs)	400	284
PA 8 (Northwood)	899	464
PA 15 (Woodbridge)	2	2
PA 20 (University Park)	152	119
PA 24 (University Town Center)	823	555
PA 34 (Irvine Spectrum 5)	85	0
PA 35 (Irvine Spectrum 2)	5,239	1,562
PA 39 (Los Olivos)	298	298
PA 40 (Cypress Village)	281	498
Non-Focus Areas Total	**8,536**	**4,073**
Total (Focus Areas and Non-Focus Areas)	**55,395**	**40,378**
Unbuilt Units in General Plan (IRWD Site and Market Place Site)	2,261	2,261
OVERALL TOTAL	**57,656**	**42,639**

PA = Planning Area
[1]Overlay applies to PA 13. However, no units are contemplated as part of the project.

3.3.1 Residential and Residential Mixed-Use Overlay

The project does not include any changes to existing General Plan land use designations or zoning classifications. Rather, the project includes a Residential and Residential Mixed-Use Overlay that would encourage residential infill projects. To adopt the proposed overlays, the project includes a Zone Text Amendment to include a new section establishing a Residential and Residential Mixed-Use Overlay and to revise applicable portions of the City of Irvine Zoning Ordinance affected by the proposed overlay to resolve any potential zoning inconsistencies resulting from adoption of the overlay. A corresponding Zoning Map Amendment would be prepared to illustrate the proposed overlay area on the City's Zoning Map. The project specifically proposes to amend the City of Irvine Zoning Ordinance to reflect the following overlay strategies aimed at encouraging residential infill projects:

- Focus Areas 1 through 3 – Residential and Residential Mixed-Use Overlay. Residential projects proposed within the three focus areas may be permitted on nonresidential properties should they include a minimum density of 50 dwelling units per acre and comply with the City's adopted Inclusionary Housing requirements (15 percent affordability). Furthermore, residential projects proposed in Focus Area 1 - Greater IBC may also be permitted to exceed existing Development Intensity Values if they include a minimum density of 50 dwelling units per acre and provide at least 20 percent of the total units on site as affordable to lower-income households (9 percent for very low-income households, 6 percent for low-income households, and 5 percent for moderate-income households in the 81–100 percent area median income (AMI). Incentives will be identified in the overlay development standards for non-residential uses, such as, but not limited to retail, restaurants, office, and community facilities that are complimentary to the residential and residential mixed-use uses and encourage the development of a proximity village.

3.4 Intended Uses of the PEIR

This PEIR examines the potential environmental impacts of implementing the project and identifies mitigation measures required to address significant impacts, as necessary. This evaluation is programmatic and does not evaluate the potential project-specific environmental impacts of individual development proposals that may be allowed under the project after its adoption. Subsequent projects would be reviewed by the City for consistency with the project and this PEIR, and adequate project-level environmental review would be conducted as required under CEQA.

3.5 Discretionary Actions, Permits, and other Project Approvals

In accordance with State CEQA Guidelines Sections 15050 and 15367, the City is the designated Lead Agency for the project and as such, has principal authority and jurisdiction for the CEQA actions and project approval. Responsible agencies are agencies that have jurisdiction or some authority over one or more aspects of a project and/or identified mitigation measures. Trustee Agencies are State agencies that have jurisdiction over natural resources affected by a project.

Discretionary actions are those actions taken by an agency that call for the exercise of judgment in deciding whether to approve or how to carry out a project. The City, as the Lead Agency, has jurisdiction over the following legislative and discretionary actions for this project:

- Adopt a General Plan Amendment updating the General Plan elements, and City's Land Use Map.
- Approve a Zone Text Amendment to revise applicable sections of the City of Irvine Zoning Ordinance affected by the overlay program.
- Approve Zoning Map Amendment to illustrate the proposed overlay program.
- Certify the PEIR.
- Adopt the Mitigation Monitoring and Reporting Program.
- Adopt the Statement of Overriding Considerations.

Additional Responsible/Trustee Agencies include the South Coast Air Quality Management District (SCAQMD), the Santa Ana Regional Water Quality Control Board (Santa Ana RWQCB), the California Coastal Commission, and the Airport Land Use Commission, and the U.S. Army Corps of Engineers. SCAQMD works with the Lead Agencies to ensure that air quality, greenhouse gas, and health risk impacts from proposed projects are accurately evaluated and mitigated where feasible. The Santa Ana RWQCB is responsible for the protection, and where applicable, the enhancement of the quality of waters within the Santa Ana River Basin. The Santa Ana RWQCB also implements state and federal laws and regulations as they pertain to water quality. The California Coastal Commission is responsible for reviewing the Local Coastal Program that is required to be updated following project approval. The Airport Land Use Commission is responsible for reviewing the General Plan and making a consistency/inconsistency determination in relation to the Airport Environs Land Use Plan. The U.S. Army Corps of Engineers has jurisdiction over development in or affecting the navigable waters of the United States.

Chapter 4.0
Environmental Analysis

The following sections analyze the potential environmental impacts that may occur through implementation of the project. Buildout of the project is anticipated to occur over an approximately 20-year horizon. Potential impacts are assessed against the current on-the-ground condition; therefore, due to the long-term buildout horizon, circumstances, and in-turn potential impacts, have the potential to change over time. The environmental issues subject to detailed analysis in the following sections include those identified as potentially significant during the environmental review process. Fifteen environmental issues are addressed in the following sections, in accordance with the California Environmental Quality Act Guidelines and Statutes. The remaining three environmental issues were found to be less than significant and are addressed in a more abbreviated manner in Chapter 6.0. Each issue analysis section is formatted to include a summary of existing conditions, including the regulatory context; the significance determination thresholds and methodology; an evaluation of potential project impacts; mitigation measures to address potentially significant impacts; and a conclusion of significance after mitigation.

4.1 Aesthetics

This section analyzes impacts to visual resources that could result from implementation of the project.

4.1.1 Existing Conditions

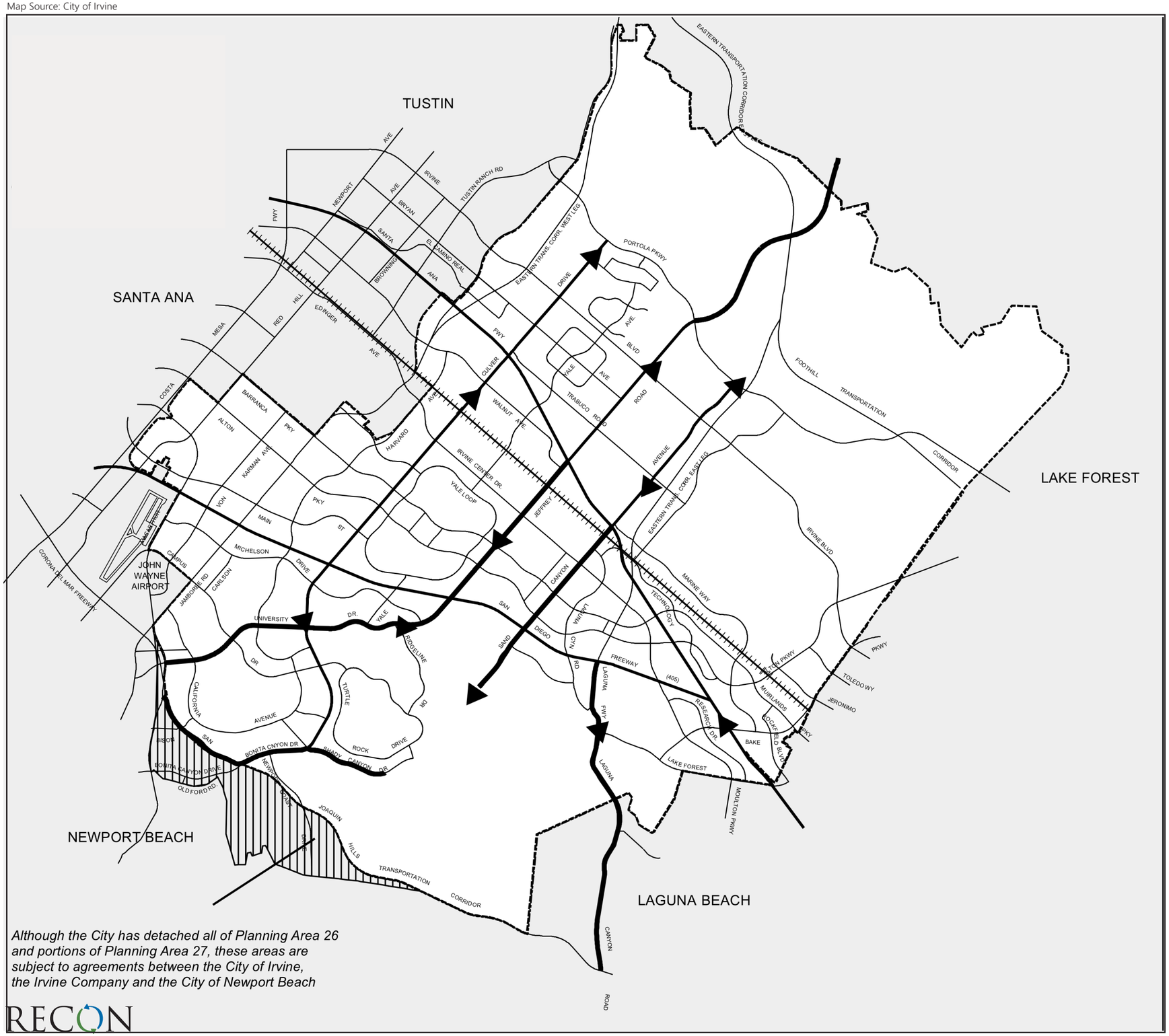
The City of Irvine (City) is divided into distinct master-planned communities or neighborhoods known as Planning Areas, each with its own unique characteristics and development objectives. Historically, residential growth was concentrated in the central parts of the City, referred to as the residential core. However, since 2000, residential development has expanded beyond this core to include areas such as the Great Park, the Northern Sphere, Spectrum, and the Irvine Business Complex (IBC).

Aesthetics generally refers to the identification of visual resources (natural and human-made) and the quality of what can be seen, as well as to an overall judgment (visual perception) of the visual environment. Aesthetic features occur in a diverse array of environments, ranging in character from urban centers to rural regions and wildlands. Features may include, but are not limited to:

- Open space
- Native or ornamental vegetation/landscaping
- Topographic or geologic features (including ridgelines of the Santiago and San Joaquin Hills)
- Natural water features
- Structures of architectural or historic significance or visual prominence
- Public plazas, art, or gardens
- Eucalyptus or other trees or plants protected by the City
- Landscaped medians or park areas

Prominent landforms in the City include the Santiago Hills, northern flatlands, central flatlands, and San Joaquin Hills. The Santiago and San Joaquin Hills have ridgelines that can be seen from various vantage points within the City (including major roadways), while views of the flatlands and the Pacific Ocean can be seen from the higher elevations. San Diego Creek and numerous other washes, as listed in Table 4.1-1, run through the City. Figure 4.1-1 presents the locations of these visual resources. These resources are predominately protected through the City's Conservation/Open Space Dedication Program and the Orange County Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP).

Map Source: City of Irvine



Although the City has detached all of Planning Area 26 and portions of Planning Area 27, these areas are subject to agreements between the City of Irvine, the Irvine Company and the City of Newport Beach

Urban Character

Rural or Natural Character

Major View

0 Miles 1.5

FIGURE 4.1-1
Visual Resources in the City

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Table 4.1-1 Notable Visual Resources	
Type of Resource	Examples
Hills	The Santiago Hills and San Joaquin Hills, including canyons, plateaus, narrow ridges, and rock outcroppings
Natural watercourses[1]	San Diego Creek, Agua Chinon Wash, Bee Canyon Wash, Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, Sand Canyon Wash, and San Joaquin Freshwater Marsh
Artificial lakes	Woodbridge Lakes and the William R. Mason Regional Park lakes
SOURCE: City of Irvine 2020. [1]Notable visual resources are the natural portions of those watercourses only.	

4.1.1.1 Significant Features

a. Viewsheds and Scenic Vistas

A viewshed is generally defined as an area that can be seen from a given vantage point and viewing direction. A viewshed is composed of foreground items (items closer to the viewer) that are seen in detail and background items (items at some distance from the viewer) that frame the view.

A scenic vista is generally defined as a view of undisturbed natural lands exhibiting a unique or unusual feature that comprises an important or dominant portion of the viewshed. Scenic vistas may also be represented by a particular distant view that provides visual relief from less attractive views of nearby features. Other designated federal and state lands, as well as local open space or recreational areas, may also offer scenic vistas if they represent a valued aesthetic view within the surrounding landscape.

b. Light and Glare

Night lighting in the City comes from various sources, such as streetlights, security lighting in parking lots and along walkways, sign and building illumination, vehicle headlights, and light emitted from the exteriors and interiors of buildings. Light sources surrounding the project site include general nighttime outdoor lights from the existing residential, office, industrial, and commercial uses, and vehicle lights from adjacent roads. Nighttime glare is generally limited to headlights reflecting off glass surfaces. During the day sunlight reflects off glass surfaces, creating glare.

4.1.2 Applicable Regulatory Requirements

4.1.2.1 Federal Regulations

a. Federal Aviation Administration

The Federal Aviation Administration (FAA) requires that any temporary or permanent structures exceeding an overall height of 200 feet above ground level be marked and/or lighted. While development associated with the project is not anticipated to exceed 200 feet in height, the FAA

may also recommend marking and/or lighting of a structure that does not exceed 200 feet above ground level because of the particular location of a structure. John Wayne Airport is located immediately adjacent to the southwestern boundary of the City and may trigger necessary notification of the FAA to ensure that proposed structures do not affect navigable airspace.

4.1.2.2 State Regulations

a. The California Scenic Highways and Historic Parkways Program

The California Scenic Highways and Historic Parkways Program was created in 1963 to preserve and protect highway corridors located in areas of outstanding natural beauty from changes that would diminish the aesthetic value of the adjacent lands. The California Department of Transportation (Caltrans) maintains its State Scenic Highways and Historic Parkways Program, through which segments of the state highway system are designated as being of particular scenic value or interest. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. Interstates, state highways, byways, and parkways are eligible for designation or for recognition as eligible for designation. The program is governed by the regulations found in the California Streets and Highways Code, Section 260 et seq.

California Streets and Highways Code Section 261 requires local government agencies to take the following actions to protect the scenic appearance of the scenic corridor:

- Regulate land use and density of development;
- Provide detailed land and site planning;
- Prohibit off-site outdoor advertising and control on-site outdoor advertising;
- Pay careful attention to and control of earth moving and landscaping; and
- Scrutinize the design and appearance of structures and equipment.

California Streets and Highways Code Section 263 allows the California State Legislature the authority to identify highways as eligible for designation as a scenic highway. The government with jurisdiction over land abutting a highway considered to be scenic is required to adopt a "scenic corridor protection program" that restricts development, outdoor advertising, and earth moving activities along the affected segment or corridor ("Corridor Protection Program"). Caltrans must also indicate that the highway segment meets established criteria for the roadway or segment to be designated as scenic.

State scenic highways in California are either formally recognized by the California Department of Transportation or meet the criteria outlined in the Streets and Highway Code, Section 260 of the California Scenic Highway Program. In Irvine, Caltrans hasn't officially designated any state scenic highways or identified segments that qualify. While the City hasn't designated any roadways as official state scenic highways, the Conservation and Open Space Element identifies certain roads in the community as having rural or natural scenic qualities, as well as urban scenic characteristics. Although not explicitly outlined in the General Plan, highways like State Routes 241 and 261 in Irvine offer picturesque views of the hillsides and the Pacific Ocean. While Portions of Sand Canyon Avenue, Jeffrey Road/University Drive, Laguna Canyon Road/Laguna Freeway, and Bonita Canyon

Road/Shady Canyon Road, and Culver Drive are scenic in nature, the closest eligible State Scenic Highways is a segment of Interstate 405 (I-405), located in Long Beach approximately 16 miles northwest the City.

b. California Building Standards Code

Title 24 of the California Building Standards Code serves as the basis for the design and construction of buildings in California. In addition to safety, sustainability, new technology, and reliability, the California Building Standards Code addresses light pollution and glare hazards through the establishment of maximum allowable backlight, up light, and glare (BUG) ratings.

4.1.2.3 Local Regulations

a. Existing General Plan (2000)

The existing General Plan Land Use and Conservation and Open Space Elements contain the following policies which pertain to aesthetics:

Land Use Element

A-1 (Policy (a)) Develop identifiable City edges, pathways, entry points, and landmarks, and conserve visual resources along scenic corridors which characterize Irvine.

A-3 (Policy (b)): Ensure development in the hillside areas retains the character and aesthetic value of the natural landform through use of the Hillside Development Ordinance.

Conservation and Open Space Element

The General Plan Conservation and Open Space Element contains the following policies which pertain to aesthetics:

L-5 (Policy (a)): Apply the following actions to all areas of the City and its sphere of influence:

- Encourage the use of development clustering approaches, landscaping, and grading techniques which will minimize physical and visual impacts on the City's valuable hillsides.

b. Municipal Code

Section 5-9-517 (Special Nonresidential Building Provisions) of Title 5 Planning, Division 9 Building Regulations, Chapter 5- Uniform Security Code discusses standards and requirements for lighting and glare in the City, including heights of lighting fixtures; design, installation, and maintenance of lighting fixtures; standards for new development of multifamily and nonresidential development; lighting for parking areas; and sign illumination. The Uniform Security Code is designed, in part, to limit light and glare to the extent feasible while providing sufficient light in a safe manner.

c. Zoning Ordinance

Chapter 3-8 (Wireless Communication Facility, Satellite Dish and Antenna Standards)

This chapter of the Zoning Ordinance establishes development standards for wireless communication facilities, satellite dish antennae, and all other forms of antennae and accessory wireless equipment designed to consider the general welfare of City residents and to be visually compatible with their surroundings while effectively serving the communication needs of the community. All wireless communication facilities, satellite dish antennae, and other forms of antennae are required to comply with the development standards outlined in this chapter, which include visual impact and screening standards.

Chapter 3-16 (Lighting)

Chapter 3-16 of the City's Zoning Ordinance requires that outdoor lighting be designed and installed so that all direct rays are confined to the site and adjacent properties are protected from glare. The level of lighting on the site shall comply with the requirements of the City's Uniform Security Code (Municipal Code, Title 5, Division 9, Chapter 5).

Chapter 3-15 (Landscaping Standards)

This chapter of the Zoning Ordinance outlines the minimum site landscaping and maintenance requirements. This chapter also outlines the screening and landscaping requirements for parking areas and parking structures.

Chapter 3-37 (Zoning District Land Use Regulations and Development Standards)

This chapter of the Zoning Ordinance outlines the regulations and development standards that are applicable to land uses proposed throughout the various Planning Areas of the City, including setbacks, building heights, landscaping, and maximum building intensity (IBC only).

Chapter 5-4 (Hillside Overlay District)

This chapter of the Zoning Ordinance provides regulations for the development of those areas in the City and its sphere of influence, which due to their topography, require special consideration to assure that they are developed in a way that will substantially maintain their natural character and environmental and aesthetic values in accordance with the policies set forth in Section 5-4-2 of the Zoning Ordinance.

Division 7 (Signs)

The intent of this division of the Zoning Ordinance, also known as the Sign Ordinance, is to promote and protect the public health, safety and welfare by regulating existing and proposed signs of all types within the City. This division outlines the standards and regulations that apply to the design and installation of signage, including quantity, location, dimensions, and lighting.

Design Guidelines

Development within specific areas of the City is also regulated by adopted design guidelines, which regulate the architectural theme, character, and overall design of new development. These design guidelines are unique to the Planning Area for which they apply and are applied on an individual

project basis. It should also be noted that the City is in the process of developing Objective Design Standards that would further regulate the development of residential projects throughout the City.

d. Initiative Resolution 88-1 and General Plan Amendment 16

In June 1988, Initiative Resolution 88-1, "An Initiative Resolution of the City of Irvine Directing the Amendment of the Conservation and Open Space Element and the Land Use Element of the Irvine General Plan" (Open Space Initiative), was adopted by City voters. This resulted in the establishment of the Conservation/Open Space Program that provides for the eventual public ownership of approximately 9,000 acres of open space to be accomplished through the transfer of development opportunities to areas that can better accommodate development in exchange for the transfer of open space to the public. By consolidating large contiguous areas of open space designated for preservation and permitting development in areas deemed to be of lesser open space value, the Conservation/Open Space Program preserves important open space resources.

Following approval of Resolution 88-1, the City and the Irvine Company executed a memorandum of understanding to implement the open space program and establish the Phased Dedication and Compensating Development Opportunities Program (Dedication/Development Program). The areas of the City directly affected by the Dedication/Development Program were divided into lettered "Implementation Districts" containing both designated open space dedication areas and corresponding development areas (see Figure 3.1-1 of the City CEQA Guidelines, Dedication/Development Program Implementation Districts).

e. Planning Commission Resolution No. 09.-2968

Standard Conditions are adopted by Planning Commission Resolution No. 09-2968. These conditions assist staff in applying standardized wording for frequently used conditions of approval for discretionary and subdivision applications. Standard conditions are applied on a case-by-case basis depending upon the specifics of the application. Companion conditions are cross-referenced and are required to be used together. The following standard conditions related to Aesthetics apply:

Standard Condition 3.6 Site Lighting Requirements

Prior to the issuance of building permits, the applicant shall demonstrate they have met the Irvine Uniform Security Code requirements for lighting by providing the below listed items for a complete review by the Police department. Failure to provide a complete lighting package will result in the delay of satisfaction of this condition. a. Electrical plan showing light fixture locations, type of light fixture, height of light fixture, lighting ratio, and point-by-point photometric lighting analysis overlaid onto a tree landscape plan with a legend. The photometric plan should only show those fixtures used to meet the Irvine Uniform Security Code requirements. b. Site plan demonstrating that landscaping shall not be planted so as to obscure required light levels per the Irvine Uniform Security Code. c. Site plans that are full-scale and legible.

f. Existing Plans, Programs, and Policies

The following measures are existing plans, programs, or policies (PPP) that apply to the project and will help to reduce and avoid potential impacts related to aesthetics:

- PPP-AES-1 Compliance with FAA requirements regarding the marking of or lighting of structures exceeding an overall height of 200 feet above ground level.
- PPP-AES-2 Compliance with Municipal Code Section 5-9-517 Special Nonresidential Building Provisions
- PPP-AES-3 Compliance with Zoning Ordinance Chapter 3-16 Lighting
- PPP-AES-4 Compliance with Zoning Ordinance Chapter 3-15 Landscaping Standards
- PPP-AES-5 Compliance with Zoning Ordinance Chapter 3-37 Zoning District Land Use Regulations and Development Standards
- PPP-AES-6 Compliance with Zoning Ordinance Chapter 5-4 Hillside Overlay District
- PPP-AES-7 Compliance with Zoning Ordinance Division 7 Signs
- PPP-AES-8 Compliance with Standard Condition 3.6 Site Lighting Requirements

Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed Goals, Objectives, Policies, and Implementation Actions are applicable to the analysis of aesthetics and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Land Use Element

Goal LU-1: Preserve and Strengthen Irvine's Identity as a Diverse and Innovative Community

Objective LU-1. To develop and implement land use policies that foster the preservation and enhancement of Irvine's diverse and innovative character, ensuring that the City remains a vibrant and inclusive community for all residents, businesses, and visitors.

- Policy a: Develop identifiable City edges, pathways, entry points, and landmarks, and conserve visual resources.

Goal LU-10: Encourage Land Use Development that Preserves the Beauty of the Natural Environment

Objective LU-10.1. To promote land use development that preserves and enhances the beauty of the natural environment throughout the City of Irvine by implementing sustainable land use policies and practices that protect ecologically sensitive areas, conserve natural resources, and promote biodiversity.

- Policy b: Ensure development in the hillside areas retains the character and aesthetic value of the natural landform through use of the Hillside Development Ordinance.

Conservation and Open Space Element:

Goal 3: Use and preserve geophysical resources, including, but not limited to, ridgelines, hillsides, and waterways, as part of the City's land use pattern.

Objective COS-3. Effectively utilize and safeguard geophysical resources, encompassing ridgelines, hillsides, and waterways, within the City's land use framework to maintain ecological integrity, enhance aesthetic value, and promote sustainable development practices that harmonize with the natural landscape.

Implementation Measures:

- Encourage development clustering approaches, landscaping, and grading techniques to minimize physical and visual impacts on the City's valuable hillsides.
- Ensure that any access roads or highways that must pass through hillside areas are the least environmentally damaging, feasible alternative which minimizes the impacts to the hillside ecological and/or aesthetic characteristics.

4.1.3 Significance Determination Thresholds

The City has adopted Appendix G of the State California Environmental Quality Act (CEQA) Guidelines as the significance thresholds for aesthetic resources. A project would normally have a significant effect on the environment, except as provided in Public Resources Code Section 21099, if the project would:

1) Have a substantial adverse effect on a scenic vista;

2) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a State Scenic Highway;

3) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or

4) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.

4.1.4 Methodology

The visual resource analysis is based on an evaluation of the project in comparison to existing aesthetic conditions within the City. Any evaluation of visual impacts is necessarily subjective; however, community aesthetic values can be used to evaluate changes in views within a particular community. These values are found in General Plan policies and the Zoning Ordinance, and, where specific policies are absent, general design theory and visual analysis methods can be incorporated to evaluate aesthetic impacts.

4.1.5 Topic 1: Scenic Vistas

Would the project have a substantial adverse effect on a scenic vista?

4.1.5.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Under the project, growth will be concentrated within the Greater Irvine Business Complex Area, the Greater Irvine Spectrum Area, and the Great Park Neighborhood Transit Village.

- Greater Irvine Business Complex Area (Focus Area 1) - This focus area is comprised of Planning Area 36 (Irvine Business Complex) and Planning Area 19 (Rancho San Joaquin) and aims to expand residential mixed-use zoning across the entire Irvine Business Complex (IBC) and specified sites in Rancho San Joaquin. This expansion will add 15,000 residential units to the Greater Irvine Business Complex Area, doubling the previous allowance under the former General Plan.

- Greater Irvine Spectrum Area (Focus Area 2) - The Greater Spectrum Area encompasses nonresidential planning zones (Planning Areas, 13, 31, and 32) adjacent to the Irvine Spectrum Center, a significant employment hub near the Irvine Transportation Center (ITC – comprising Metrolink, Amtrak, and OCTA transit services). Planned growth aims to foster a series of residential clusters near commercial lifestyle hubs, linked by diverse multi-modal and complete street approaches, thereby creating fresh prospects for both Irvine residents and businesses. The project would increase the residential intensity in Focus Area 2 by an additional 26,607 residential units.

- Great Park Neighborhood Transit Village (Focus Area 3) - The Great Park Neighborhoods, designated as Planning Area 51, currently comprises a mixed-use zone with diverse residential offerings at different densities encircling the Irvine Great Park. Future growth projections indicate an emphasis on higher-density residential developments situated near the Irvine Transportation Center. The project would increase the residential intensity in PA 51 with an additional 5,252 residential units.

Development within the three focus areas would primarily occur in urbanized areas close to transit corridors. These areas currently provide a mix of uses, are in proximity to transit, and are more dense/intense than existing single-family neighborhoods throughout the City. Although future development and redevelopment would vary in building height, mass, form, and intensity, projects would generally be required to meet a minimum residential density of 50 dwelling units per acre, similar to the average density of recently approved projects within the three focus areas. Furthermore, by concentrating most of the development within the three focus areas, the project would ensure that buildout under the General Plan would not block public views of scenic vistas that are primarily located in undeveloped and open space areas of the City. Similarly, nonresidential growth within the Great Park area and the extension of Ada roadway would occur within areas that

are not afforded scenic views of natural resources in the City. Furthermore, the updated Land Use Element contains the policies LU-1.1 Policy a and LU-10.1 Policy b, which aim to concentrate development within specific areas of the City to conserve visual resources along scenic corridors and aim to ensure that development in hillside areas retains the character and aesthetic value of the natural landforms. The updated Conservation and Open Space Element also includes Objective COS-5, which aims to use and preserve ridgelines, hillsides, and waterways as part of the City's land use pattern. These objectives and policies would further support the City's goals of maintaining scenic vistas throughout the City. Therefore, impacts related to obstruction of a scenic vista would be less than significant.

4.1.5.2 Significance of Impacts

Future development facilitated by the project would primarily occur in urbanized areas that are not afforded expansive views of scenic vistas. Therefore, the project would not have a substantial adverse effect on a scenic vista, and impacts would be less than significant.

4.1.5.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.1.6 Topic 2: Scenic Resources

Would the project substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a State Scenic Highway?

4.1.6.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

There are no state-designated or eligible scenic highways within the City. The closest eligible State Scenic Highway is a segment of I-405 in Long Beach, approximately 16 miles northwest of the City. This segment of scenic highway does not have distinct views of the focus areas. Furthermore, the General Plan Land Use Element contains the following policies LU-10(a) and LU-10(b), which aim to concentrate development within specific areas of the City to conserve visual resources along scenic corridors and aim to ensure that development in hillside areas retains the character and aesthetic value of the natural landforms. Compliance with these policies would further support the City's goal of preserving views along scenic corridors. Therefore, future development under the project would not be located within the viewshed of any designated or eligible state scenic highways.

4.1.6.2 Significance of Impacts

There are no state-designated or eligible scenic highways within the City. As such, the project would not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a State Scenic Highway, and impacts would be less than significant.

4.1.6.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.1.7 Topic 3: Visual Character or Quality

In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage points). In an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

4.1.7.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

The project would introduce additional development throughout the City using a residential and mixed-use overlay that would allow greater flexibility for property owners and developers. The overlay would promote higher density residential and residential mixed-use in three focus areas that are most suited for new growth and development as they are located near existing job centers and are along major travel corridors with access to existing and future public transit opportunities. Future development would be consistent with the visual quality and character of these focus areas, given their existing urban character. As previously stated, future growth would also be developed at densities that are similar to recently approved projects within these areas. Furthermore, the height of future projects within the IBC (Focus Area 1) would also be subject to FAA regulations limiting building heights within the John Wayne Airport Area (PPP AES-1). Compliance with these standards would further ensure that future development would be consistent with the aesthetic character of this area. Additionally, some of underutilized sites within these focus areas consist of aging structures with poor visual quality, and redevelopment of these structures would result in new residential structures developed consistent with the visual requirements of existing PPPs (PPPs AES-1 through AES-8). Furthermore, development of vacant and underutilized sites would be required to adhere to the land use plans that provide supplemental development regulations of those sites, as well as the requirements of the Municipal Code and Zoning Ordinance.

Development outside of the three focus areas is expected to occur on an incremental basis and would be required to occur in compliance with the City's Municipal Code and Zoning Ordinance (PPPs AES-1 through 8). Compliance with the City's code and site-specific review of the design of future projects would ensure their compatibility with the aesthetic character of the area in which they are proposed.

Proposed improvements within the Great Park (Focus Area 3) would occur entirely within the boundaries of this Planning Area, which is currently developed with residential uses on the outer edge and recreational, parks, and open space uses within the Planning Area core. All planned improvements would be consistent with the existing aesthetic character of the Great Park area. Similarly, planned improvements to the Ada roadway, which would be extended as part of the

project, would be consistent with existing infrastructure in the area and would serve to improve mobility connections. As such, the extension of Ada would be consistent with the existing aesthetic character of the area. For the reasons stated above, future development facilitated by the project would not result in the degradation of the existing scenic quality of the City, and impacts would be less than significant.

4.1.7.2 Significance of Impacts

Buildout of the project would occur in areas that are currently developed and urban in nature. Future projects would be developed at densities that are consistent with existing uses in the area and would be required to comply with City standards outlined in the Municipal Code and Zoning Ordinance regulating building design and aesthetics. As such, the project would not conflict with applicable zoning and other regulations governing scenic quality, and impacts would be less than significant.

4.1.7.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.1.8 Topic 4: Light or Glare

Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

4.1.8.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Future development under the project would primarily be concentrated within three focus areas. Growth outside of these areas is expected to be incremental and limited, consistent with the City's Housing Elements Sites Inventory. New development and increased density in the three focus areas will introduce new sources of light and glare associated with an increase in buildings and vehicles in the areas. Focus Areas 1 and 2 are primarily characterized by an urbanized environment with existing light and glare sources. Therefore, future development would introduce similar sources of light to these areas. Proposed improvements within the Great Park (Focus Area 3) would occur entirely within the boundaries of this Planning Area, which is currently developed with residential uses on the outer edge and recreational, parks, and open space uses within the Planning Area core. All planned improvements would be consistent with the existing aesthetic character of the Great Park area.

All development envisioned as part of the project, would be required to comply with the California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of the California Code of Regulations, Municipal Code standards related to light and glare (Title 5, Division 9, Chapter 5), the Zoning Ordinance (Chapter 3-16- Lighting), and City Standard Condition 3.6 (Site Lighting Requirements), which requires that outdoor lighting be directed downward and away from adjoining properties and public rights-of-way. Compliance with existing PPPs AES-3

would also reduce impacts associated with light and glare. Compliance with existing City regulations would ensure that all project-related impacts with respect to light and glare would be less than significant.

4.1.8.2 Significance of Impacts

Buildout of the project would introduce new sources of light and potentially glare in areas that are already developed with uses that emit nighttime lighting. All future projects would be required to comply with state and local standards aimed at minimizing light and glare (PPPs AES-1 and AES-3). Therefore, the project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area, and impacts would be less than significant.

4.1.8.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.1.9 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for aesthetics. The study area for the assessment of cumulative impacts related to aesthetics is defined as the City. Future development within the study area could have a cumulative impact on visual resources due to changes in the existing visual quality and aesthetics. These impacts could result from incremental increases in density and urbanization. This growth could gradually alter the visual quality of the study area. However, future development would be consistent with the visual quality and character of surrounding development based on application of required design review and consistency with the California Green Building Code, and the City's Municipal Code, Zoning Ordinance, General Plan, and Standard Conditions of Approval. Additionally, some of the underutilized sites consist of aging structures with poor visual quality, and redevelopment of these structures would result in new residential structures developed consistent with the visual requirements of the Municipal Code and Zoning Ordinance. Future development would also be required to comply with Municipal Code standards related to light and glare, which serve to minimize light pollution and trespass in order to preserve dark skies. Therefore, the project would not contribute to a significant cumulative impact related to aesthetics.

4.2 Air Quality

This section analyzes the air quality impacts that could result from implementation of the project. This analysis relies on the Irvine General Plan Update Air Quality and Greenhouse Gas Emissions Summary prepared by Urban Crossroads, Inc. (Appendix B).

4.2.1 Existing Conditions

4.2.1.1 South Coast Air Basin

The city of Irvine (City) is located within the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The 6,745-square-mile Basin encompasses Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, and is bound by the Pacific Ocean to the west, the San Gabriel, San Bernardino, and Jacinto mountains to the north and east, respectively, and San Diego County to the south. The Basin is designated as in attainment or unclassifiable attainment (expected to be meeting the standard despite a lack of monitoring data) for all federal air quality standards except 8-hour ozone and 2.5-micron particulate matter ($PM_{2.5}$) standards. The Basin is designated as in nonattainment for state air quality standards for 8-hour ozone and $PM_{2.5}$, and additionally is in nonattainment of state 10-micron particulate matter (PM_{10}) standards.

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by California Air Resources Board (CARB) or federal standards set by the U.S. Environmental Protection Agency (U.S. EPA). The SCAQMD maintains 41 active air quality monitoring sites located throughout the Basin. Air pollutant concentrations and meteorological information are continuously recorded at these stations. Measurements are then used by scientists to help forecast daily air pollution levels.

The nearest monitoring stations include the Mission Viejo monitoring station, located approximately three miles east of the City at 26081 Via Pera, and the Anaheim – Pampas Lane monitoring station, located approximately nine miles northwest of the City at 1630 West Pampas Lane. The Mission Viejo monitoring station measures ozone, PM_{10}, and $PM_{2.5}$, and the Anaheim monitoring station measures ozone, nitrogen dioxide (NO_2), PM_{10}, and $PM_{2.5.}$ Table 4.2-1 provides a summary of measurements collected at the Mission Viejo and Anaheim monitoring stations for the years 2018 through 2022.

Table 4.2-1 Summary of Air Quality Measurements Recorded at Mission Viejo and Anaheim Monitoring Stations					
Pollutant/Standard	2018	2019	2020	2021	2022
Mission Viejo Monitoring Station					
Ozone					
Federal Max 8-hr (ppm)	0.088	0.087	0.122	0.081	0.088
Days 2015 Federal 8-hour Standard Exceeded (0.07 ppm)	9	11	32	8	5
Days 2008 Federal 8-hour Standard Exceeded (0.075 ppm)	2	7	25	4	2
State Max 8-hr (ppm)	0.088	0.088	0.123	0.082	0.089
Days State 8-hour Standard Exceeded (0.07 ppm)	10	11	34	8	6
Max. 1-hr (ppm)	0.121	0.106	0.171	0.105	0.110
Days State 1-hour Standard Exceeded (0.09 ppm)	2	3	20	2	1
PM_{10}*					
Federal Max. Daily ($\mu g/m^3$)	55.6	45.1	56.2	35.2	31.0
Measured Days Federal 24-hour Standard Exceeded (150 $\mu g/m^3$)	0	0	0	0	0
Calculated Days Federal 24-hour Standard Exceeded (150 $\mu g/m^3$)	0.0	0.0	--	0.0	--
Federal Annual Average ($\mu g/m^3$)	19.5	17.1	18.3	16.2	12.7
State Max. Daily ($\mu g/m^3$)	55.6	44.2	55.1	34.6	30.4
Measured Days State 24-hour Standard Exceeded (50 $\mu g/m^3$)	1	0	2	0	0
Calculated Days State 24-hour Standard Exceeded (50 $\mu g/m^3$)	6.0	0.0	--	0.0	--
State Annual Average ($\mu g/m^3$)	19.1	16.7	--	15.8	--
$PM_{2.5}$*					
Federal Max. Daily ($\mu g/m^3$)	38.9	20.8	46.6	32.6	22.6
Measured Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	1	0	6	0	0
Calculated Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	--	0.0	6.9	0.0	--
Federal Annual Average ($\mu g/m^3$)	8.5	7.1	10.3	9.3	--
State Max. Daily ($\mu g/m^3$)	38.9	20.8	47.6	32.6	22.6
State Annual Average ($\mu g/m^3$)	--	--	9.3	8.3	--
Anaheim Monitoring Station					
Ozone					
Federal Max 8-hr (ppm)	0.071	0.082	0.097	0.068	0.076
Days 2015 Federal 8-hour Standard Exceeded (0.07 ppm)	1	1	15	0	1
Days 2008 Federal 8-hour Standard Exceeded (0.075 ppm)	0	1	4	0	1
State Max 8-hr (ppm)	0.071	0.082	0.098	0.068	0.077
Days State 8-hour Standard Exceeded (0.07 ppm)	1	1	16	0	1
Max. 1-hr (ppm)	0.112	0.096	0.142	0.089	0.102
Days State 1-hour Standard Exceeded (0.09 ppm)	1	1	6	0	1
NO_2					
Max 1-hr (ppm)	0.0660	0.0594	0.0709	0.0671	0.0530
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Days Federal 1-hour Standard Exceeded (0.100 ppm)	0	0	0	0	0
Annual Average (ppm)	0.013	0.012	0.013	0.012	0.011
PM_{10}*					
Federal Max. Daily ($\mu g/m^3$)	94.6	127.6	74.8	63.6	67.0
Measured Days Federal 24-hour Standard Exceeded (150 $\mu g/m^3$)	0	0	0	0	0
Calculated Days Federal 24-hour Standard Exceeded (150 $\mu g/m^3$)	0.0	0.0	--	0.0	--
Federal Annual Average ($\mu g/m^3$)	27.9	24.6	30.8	23.4	20.9
State Max. Daily ($\mu g/m^3$)	94.6	127.1	74.5	63.3	66.7
Measured Days State 24-hour Standard Exceeded (50 $\mu g/m^3$)	2	4	5	1	1
Calculated Days State 24-hour Standard Exceeded (50 $\mu g/m^3$)	12.0	24.4	--	5.7	--
State Annual Average ($\mu g/m^3$)	27.7	24.4	--	23.2	--

Table 4.2-1
Summary of Air Quality Measurements Recorded at
Mission Viejo and Anaheim Monitoring Stations

Pollutant/Standard	2018	2019	2020	2021	2022
$PM_{2.5}$*					
Federal Max. Daily ($\mu g/m^3$)	63.1	36.1	60.2	54.4	33.1
Measured Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	7	4	12	10	0
Calculated Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	7.0	4.0	12.0	10.0	0.0
Federal Annual Average ($\mu g/m^3$)	11.4	9.3	12.2	11.5	9.8
State Max. Daily ($\mu g/m^3$)	68.0	37.1	64.8	54.4	33.1
State Annual Average ($\mu g/m^3$)	12.3	9.4	12.4	11.6	9.9

SOURCE: CARB 2024.
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; Na = Not available.
* Calculated days value. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

As shown in Table 4.2-1, there are exceedances of ozone, PM_{10}, and $PM_{2.5}$ standards. These exceedances occur throughout the Basin. Due to these exceedances, the Basin is designated as nonattainment for federal 8-hour ozone and $PM_{2.5}$ standards, and nonattainment for state 8-hour ozone, PM_{10}, and $PM_{2.5}$ standards. The 2016 Air Quality Management Plan (discussed later under Local Air Quality Regulations) addresses how the Basin plans to improve air quality and meet the attainment standards.

4.2.1.2 Regional Climate and Meteorology

The City is located within southern Orange County bordered by Unincorporated Orange County and a number of cities including Tustin, Santa Ana, Lake Forest, Costa Mesa, Newport Beach, Laguna Hills and Laguna Woods. The Santa Ana Mountains are located to the northeast. Air quality in the Basin is influenced by both topographical and meteorological conditions.

The City, like other inland valley areas in southern California, has a Mediterranean climate characterized by warm, dry summers and mild, wet winters. The average annual precipitation is 13 inches, falling primarily from November to April (National Oceanic and Atmospheric Administration 2024). Overall annual temperatures in the project area average about 67 degrees Fahrenheit (°F), winter low temperatures average about 48°F, and summer high temperatures average about 90°F.

The dominant meteorological feature affecting the region is the Pacific High Pressure Zone, which produces the prevailing westerly to northwesterly winds. These winds tend to blow pollutants away from the coast toward the inland areas. Consequently, air quality near the coast is generally better than that which occurs at the base of the coastal mountain range.

The prevailing westerly wind pattern is sometimes interrupted by regional "Santa Ana" conditions. A Santa Ana occurs when a strong high pressure develops over the Nevada–Utah area and overcomes the prevailing westerly coastal winds, sending strong, steady, hot, dry northeasterly winds over the mountains and out to sea.

4.2.2 Applicable Regulatory Requirements

4.2.2.1 Federal Air Quality Regulations

Ambient Air Quality Standards (AAQS) represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. The federal Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 [42 United States Code (USC) 7401] for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, in order to achieve the purposes of Section 109 of the CAA [42 USC 7409], the U.S. EPA developed primary and secondary National Ambient Air Quality Standards (NAAQS).

Six criteria pollutants of primary concern have been designated: ozone, carbon monoxide (CO), sulfur dioxide (SO_2), NO_2, lead (Pb), and PM_{10} and $PM_{2.5}$. The primary NAAQS are requisite to protect the public health, and the secondary standards protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air [42 USC 7409(b)(2)]. The primary NAAQS were established, with a margin of safety, considering long-term exposure for the most sensitive groups in the general population (i.e., children, senior citizens, and people with breathing difficulties). The NAAQS are presented in Table 4.2-2 (CARB 2016).

4.2.2.2 State Air Quality Regulations

a. California Ambient Air Quality Standards

The U.S. EPA allows states the option to develop different (stricter) standards. The state of California has developed the California Ambient Air Quality Standards (CAAQS) and generally has set more stringent limits on the criteria pollutants (see Table 4.2-2). In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride (see Table 4.2-2). Similar to the federal CAA, the state classifies specific geographic areas as either "attainment" or "nonattainment" areas for each pollutant based on the comparison of measured data with the CAAQS.

The state of California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses, and therefore are expected to have similar ambient air quality. If an air basin is not in either federal or state attainment for a particular pollutant, the basin is classified as a moderate, serious, severe, or extreme nonattainment area for that pollutant (there is also a marginal classification for federal nonattainment areas). Once a nonattainment area has achieved the air quality standards for a particular pollutant, it may be redesignated to an attainment area for that pollutant. To be redesignated, the area must meet air quality standards and have a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the federal CAA. Areas that have been redesignated to attainment are called maintenance areas.

Table 4.2-2
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$)[9]	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-dispersive Infrared Photometry	35 ppm (40 mg/m^3)	–	Non-dispersive Infrared Photometry
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m^3)	–	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[11]	–	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chroma-tography			

See footnotes on next page.

Table 4.2-2
Ambient Air Quality Standards

SOURCE: CARB 2016.

ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; – = not applicable.

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent measurement method which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

[8] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[9] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standards of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[10] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of ppb. California standards are in units of ppm. To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[11] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] The Air Resources Board has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[14] In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

b. Toxic Air Contaminants

A toxic air contaminant (TAC) is any air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a present or potential hazard to human health. The public's exposure to TACs is a significant public health issue in California. Diesel-exhaust particulate matter emissions have been established as TACs. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: Health and Safety Code Sections 39650–39674). The California Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels. The Children's Environmental Health Protection Act, California Senate Bill 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. The act requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air quality monitoring network, and develop any additional air toxic control measures needed to protect children's health.

Locally, toxic air pollutants are regulated through the SCAQMD's Regulation XIV. Of particular concern statewide are diesel-exhaust particulate matter emissions. Diesel-exhaust particulate matter was established as a TAC in 1998 and is estimated to represent a majority of the cancer risk from TACs statewide (based on the statewide average). Diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants program.

Following the identification of diesel particulate matter (DPM) as a TAC in 1998, CARB has worked on developing strategies and regulations aimed at reducing the risk from DPM. The overall strategy for achieving these reductions is found in the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (CARB 2000). To monitor the effectiveness of the efforts to reduce DPM, CARB has supported field campaigns that measure real-world emissions from heavy-duty vehicles, and results indicate that regulations aimed at reducing emissions of DPM have been successful.

In April 2005, CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). The handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics, etc.). It notes that the handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected

in the CARB handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this impact analysis, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway or an urban road with 100,000 or more vehicles per day should be avoided when possible. Based on vehicle counts conducted by the California Department of Transportation (Caltrans) in 2021, in the vicinity of the City, Interstate 5 (I-5), Interstate 405 (I-405), State Route 55 (SR-55), and State Route 73 (SR-73) currently carry more than 100,000 vehicles per day (Caltrans 2021). The Level of Service Traffic Study determined that there are no roadway segments within the City with traffic volumes that exceed 100,000 vehicle trips per day (Iteris 2024).

As an ongoing process, CARB continues to establish new programs and regulations for the control of diesel-particulate and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will ensure that the public's exposure to diesel particulate matter will continue to decline.

c. State Implementation Plan

The State Implementation Plan (SIP) is a collection of documents that set forth the state's strategies for achieving the NAAQS. In California, the SIP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. The CARB is the lead agency for all purposes related to the SIP under state law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. The CARB then forwards SIP revisions to the U.S. EPA for approval and publication in the *Federal Register*. All of the items included in the California SIP are listed in the Code of Federal Regulations (CFR) at 40 CFR 52.220.

As the regional air quality management district, the SCAQMD is responsible for preparing and implementing the portion of the SIP applicable to the Basin. The air pollution control district for each county adopts rules, regulations, and programs to attain federal and state air quality standards, and appropriates money (including permit fees) to achieve these objectives.

d. California Code of Regulations Title 13: Motor Vehicles

California Code of Regulations, Title 13: Division 3, Chapter 10, Article 1, Section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. This measure seeks to reduce public exposure to DPM and other air contaminants by establishing idling restrictions, emission standards, and other requirements for heavy-duty diesel engines and alternative idle reduction technologies to limit the idling of diesel-fueled commercial motor vehicles. Any person that owns, operates, or causes to operate any diesel-fueled commercial motor vehicle must not allow a vehicle to idle for more than 5 consecutive minutes at any location or operate a diesel-fueled auxiliary power system for greater than 5 minutes at any location when within 100 feet of a restricted area.

California Code of Regulations, Title 13: Division 3, Chapter 9, Article 4.8, Section 2449: General Requirements for In-Use Off-Road Diesel-Fueled Fleets. This measure regulates NOX, DPM, and other criteria pollutant emissions from in-use, off-road diesel-fueled vehicles. This measure also requires each fleet to meet fleet average requirements or demonstrate that it has met "best available control technology" requirements. Additionally, this measure requires medium and large fleets to have a written idling policy that is made available to operators of the vehicles informing them that idling is limited to 5 consecutive minutes or less.

4.2.2.3 Regional Air Quality Regulations Air Quality Regulations

a. South Coast Air Quality Management District

The SCAQMD is the air pollution control agency in the Basin. The role of the local SCAQMD is to protect the people and the environment of the Basin from the effects of air pollution. SCAQMD shares responsibility with CARB for ensuring that NAAQS and CAAQS are achieved and maintained within the Basin. As the SCAQMD is designated as a nonattainment area for state air quality standards for 8-hour ozone, PM_{10}, and $PM_{2.5}$, SCAQMD periodically prepares air quality management plans (AQMPs) outlining measures to reduce these pollutants. The most recent AQMP is the 2022 Air Quality Management Plan (2022 AQMP). Additionally, SCAQMD provides the following rules and regulations:

- SCAQMD Rule 402 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

- SCAQMD Rule 403 governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through the application of standard BMPs, such as the application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour (mph), sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

  Rule 403 requires that fugitive dust be controlled with the Best Available Control Measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM10 component). Compliance with these rules would reduce impacts on nearby sensitive receptors. Rule 403 measures may include, but are not limited to, the following:

  - Apply non-toxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).

- Water active sites at least three times daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- Cover all trucks hauling dirt, sand, soil, or other loose materials or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.
- Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.
- Provide bumper strips or similar BMPs where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
- Replant disturbed areas as soon as practical.
- During all construction activities, sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1, Less Polluting Sweepers.

- SCAQMD Rule 1113 governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of the project must comply with SCAQMD Rule 1113.

- Rule 1466, Soil Disturbance. Projects that involve earth-moving activities of more than 50 cubic yards of soil with applicable toxic air contaminants are subject to this rule

b. SCAQMD Amicus Brief

A recent Supreme Court of California decision, *Sierra Club v. County of Fresno* (2019) 6 Cal. 5th 502 ("Friant Ranch"; California Supreme Court 2019), found that the EIR prepared for the Friant Ranch Specific Plan was inadequate because it did not relate the expected adverse air quality impacts to likely health consequences, or explain why it was not feasible to provide such an analysis. In response, the SCAQMD has provided amicus briefs explaining the difficulties in providing correlation between regional pollutant emissions and human health. Since the project would result in emissions of criteria pollutants, the California Supreme Court decision and the SCAQMD's amicus briefs are relevant to the project.

The California Supreme Court conceded that an explanation of the connection between an individual project's pollutant emissions in excess of thresholds and human health effects may not be possible given the current state of environmental science modeling. However, the California Supreme Court concluded that the Friant Ranch Project EIR itself must explain, in a manner reasonably calculated to inform the public, the scope of what is, and is not yet known, about the effect of the project's significant and unavoidable air quality impacts on human health. The specific language provided by the Court is provided below.

> The EIR fails to provide an adequate discussion of health and safety problems that will be caused by the rise in various pollutants resulting from the Project's development. At this point, we cannot know whether the required additional analysis

> will disclose that the Project's effects on air quality are less than significant or unavoidable, or whether that analysis will require reassessment of proposed mitigation measures. Absent an analysis that reasonably informs the public how anticipated air quality effects will adversely affect human health, an EIR may still be sufficient if it adequately explains why it is not scientifically feasible at the time of drafting to provide such an analysis.

With regard to the analysis of air quality-related health impacts, the SCAQMD has stated that "EIRs must generally quantify a project's pollutant emissions, but in some cases it is not feasible to correlate these emissions to specific, quantifiable health impacts (e.g., premature mortality; hospital admissions)." In such cases, a general description of the adverse health impacts resulting from the pollutants at issue may be sufficient.

The SCAQMD has further stated that from a scientific standpoint, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. SCAQMD further acknowledges that it may be feasible to analyze air quality related health impacts for projects on a regional scale with very high emissions of oxides of nitrogen (NOx) and volatile organic compounds (VOCs), where impacts are regional. The example SCAQMD provided was for proposed Rule 1315, which authorized various newly permitted sources to use offsets from the SCAQMD's "internal bank" of emission reductions. The California Environmental Quality Act (CEQA) analysis accounted for essentially all of the increases in emissions due to new or modified sources in the District between 2010 and 2030, or approximately 6,620 pounds per day of NOx and 89,947 pounds per day of VOC, to expected health outcomes from ozone and particulate matter (e.g., 20 premature deaths per year and 89,947 school absences in the year 2030 due to ozone).

c. Multiple Air Toxics Exposure Study

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study conducted in the Basin. The MATES V study, which is a follow up to previous air toxics studies in the Basin includes a fixed site monitoring program with 10 stations, an inventory of TACs, and a modeling effort to characterize risk across the Basin. The purpose of the MATES V fixed site monitoring is to characterize long-term regional air toxics levels in residential and commercial areas. MATES V predicts that the excess cancer risk for the City ranges from 250 to 450 in a million (SCAQMD 2021). The MATES IV study represents the baseline health risk for a cumulative analysis. The MATES VI update is currently being conducted.

4.2.2.4 Local Regulations

a. Municipal Code

Title 4 (Public Safety), Division 21 (Reduction of Air Pollution from Motor Vehicles)

This division is intended to support the SCAQMD's imposition of the vehicle registration fee and to bring the City into compliance with the requirements set forth in Health and Safety Code Section 44243 in order to receive fee revenues for the purpose of implementing programs to reduce air pollution from motor vehicles.

Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code)

The City's Grading Code establishes rules and regulations to control excavation, grading, and earthwork construction (including fills and embankments), and establishes administrative requirements for issuance of permits, approval of plans, and inspection of grading construction in accordance with the requirements for grading and excavation contained in the Uniform Building Code as adopted and modified by City ordinance. The Grading Code also outlines dust control requirements. For example, as outlined in Section 5-10-127 (Import and export of earth material), where an excess of 5,000 cubic yards of earth material per project site is moved on public roadways from or to the site of an earth grading operation, the following requirements shall apply:

A. Either water or dust palliative or both must be applied for the alleviation or prevention of excessive dust resulting from the loading or transportation of earth from, to or within the project site on public roadways. The permittee shall be responsible for maintaining public rights-of-way used for hauling purposes in a condition free of dust, earth or debris attributed to the grading operation.

b. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the proposed project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the proposed project and will help to reduce and avoid potential impacts related to air quality:

- PPP AQ-1 Construction activities will be conducted in compliance with California Code of Regulations, Title 13, Section 2449, which requires that nonessential idling of construction equipment be restricted to five minutes or less.
- PPP AQ-2 Construction activities will be conducted in compliance with any applicable SCAQMD rules and regulations, including but not limited to:
  - Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance.
  - Rule 402, Nuisance, which states that a project shall not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."
  - Rule 1113, which limits the volatile organic compound content of architectural coatings.
  - Rule 1466, Soil Disturbance. Projects that involve earth-moving activities of more than 50 cubic yards of soil with applicable toxic air contaminants are subject to this rule.
- PPP AQ-3: Compliance with the City of Irvine's Grading Code.
- PPP AQ-4: Compliance with the City of Irvine's Municipal Code guidance to reduce air pollution from motor vehicles.

Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed goals, objectives, policies, and implementation actions are applicable to the analysis of air quality and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Environmental Protection and Climate Action Element

Goal 4: Improve air quality and protect public health in Irvine by reducing air pollution and minimizing harmful emissions from various sources.

Objective EPCA-4. Achieve and maintain compliance with air quality standards set by regulatory agencies, such as the Environmental Protection Agency (EPA) and the California Air Resources Board (CARB), to ensure a healthy and sustainable environment for residents.

- **Policy (a):** Support the adoption of low-emission and alternative fuel vehicles through incentives, rebates, and infrastructure development.
- **Policy (b):** Encourage industries and commercial establishments to implement emission control technologies and practices to minimize air pollution from manufacturing processes, construction activities, and other operations.
- **Policy (c):** Encourage the use of clean and renewable energy sources, such as solar, wind, and geothermal, to reduce emissions from energy generation and promote a transition away from fossil fuels.

Goal 11: Foster a sustainable transportation system in Irvine that promotes air quality and enhances community resilience to climate change impacts.

Objective EPCA-11. Implement policies and initiatives that promote active transportation, public transit, and low-emission vehicles to reduce reliance on single-occupancy vehicles, minimize traffic congestion, and enhance mobility options for residents of all ages and abilities.

- **Policy (a):** Develop and maintain a comprehensive network of pedestrian-friendly sidewalks, bicycle lanes, and multi-use trails that connect residential neighborhoods, commercial districts, employment centers, and public amenities.
- **Policy (b):** Implement complete streets policies and design standards that prioritize safe and accessible walking, biking, and rolling infrastructure, including ADA-compliant facilities, pedestrian crossings, and bicycle parking facilities, in all transportation projects and street improvements.
- **Policy (c):** Encourage transit-oriented development (TOD) and mixed-use zoning around transit stations and major transit corridors to promote compact, walkable neighborhoods, reduce automobile dependency, and support sustainable land use patterns that integrate housing, jobs, and amenities.
- **Policy (d):** Expand the availability of EV charging stations, particularly in public parking facilities, multi-family residential complexes, commercial areas, and workplaces, to facilitate EV adoption and reduce range anxiety for drivers of electric vehicles.

4.2.3 Significance Determination Thresholds

Thresholds used to evaluate impacts to air quality are based on applicable criteria in the CEQA Guidelines (California Code of Regulations Sections 15000-15387), Appendix G. A significant impact would occur if the project would:

1) Conflict with or obstruct implementation of the applicable air quality plan;
2) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standards;
3) Expose sensitive receptors to substantial pollutant concentrations; or
4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

4.2.3.1 SCAQMD Significance Thresholds

As discussed previously, the SCAQMD is the air pollution control agency responsible for protecting the people and the environment of the Basin from the effects of air pollution. Accordingly, the City evaluates project air quality emissions based on the quantitative emission thresholds originally established in the SCAQMD's CEQA Air Quality Handbook (SCAQMD 1993, 2023).

a. Regional Significance Thresholds

SCAQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the Basin. SCAQMD's significance thresholds for impacts to regional air quality are shown in Table 4.2-3.

Table 4.2-3
SCAQMD Air Quality Significance Thresholds – Mass Daily Thresholds

Pollutant	Emissions (pounds)	
	Construction	Operational
Oxides of Nitrogen (NO_X)	100	55
Volatile Organic Compounds (VOC)	75	55
Coarse Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55
Oxides of Sulfur (SO_X)	150	150
Carbon Monoxide (CO)	550	550
Lead (Pb)*	3	3
SOURCE: SCAQMD Air Quality Significance Thresholds (SCAQMD 2023).		

Projects that exceed the regional significance threshold contribute to the nonattainment designations of the Basin. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health effects. Projects that do not exceed the regional significance thresholds in Table 4.2-3 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

b. Localized Significance Thresholds

The SCAQMD's Final Localized Significance Threshold (LST) Methodology was developed as a tool to assist lead agencies to analyze localized air quality impacts to sensitive receptors in the vicinity of the project (SCAQMD 2008). Emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at a project site could expose sensitive receptors to substantial concentrations of criteria air pollutants. Off-site mobile-source emissions are not included in the LST analysis. A project would generate a significant impact if it generates emissions that would violate the NAAQS or CAAQS (see Table 4.2-2) when added to the local background concentrations.

4.2.4 Methodology

Air quality impacts can result from the construction and operation of a project. Construction impacts are short term and result from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries. Operational impacts can occur on two levels: regional impacts resulting from development or local effects stemming from sensitive receivers being placed close to roadways or stationary sources. Approval of the project would not specifically permit the construction of an individual project, and no specific development details are available at this program level of analysis. For the purposes of this analysis, emissions were calculated for buildout of the City's adopted General Plan (No Project Alternative) and buildout of the project.[1]

4.2.4.1 Construction Emissions

Construction-related activities are temporary, short-term sources of air emissions. Sources of construction-related air emissions include the following:

- Fugitive dust from grading activities;
- Construction equipment exhaust;
- Construction-related trips by workers, delivery trucks, and material-hauling trucks; and
- Construction-related power consumption.

Air pollutants generated by future development within the City would vary depending upon the number of projects occurring simultaneously and the size of each individual project. Construction-related emissions are likely to occur over time in locations dispersed throughout the City. As construction emissions create temporary, short-term sources of air emissions, evaluation of emissions of buildout of all future site-specific uses would not provide a reasonable estimation of construction emissions. Additionally, since all construction emissions will not occur at once, it would overestimate emissions at any one time. As such, construction-related emissions cannot be accurately determined at the program level of analysis. In order to consider the potential impact associated with construction emissions resulting from the project, a hypothetical project construction

[1] This scenario considers buildout of the project plus additional cumulative projects that are assumed to be built in the background conditions in both the City and in surrounding jurisdictions, including known future residential development in adjacent cities.

emission scenario was evaluated based on development of a large-scale project (1,500 units, with an average size of 670 square-feet [small apartments], on a 15-acre site). This analysis scenario would capture both emissions of a large individual construction project occurring at one time, in addition to several smaller construction projects occurring simultaneously in the same area. Since impacts of construction emissions are associated with emissions potentially exceeding thresholds in a localized area, affecting nearby sensitive receptors, this analysis approach would effectively characterize construction emissions associated with the project over time as housing is developed. CalEEMod modeling output files for construction activities are presented in Appendix B.

4.2.4.2 Operational Emissions

Operational emissions are long-term and include mobile, energy, and area sources. Sources of operational emissions associated with future development under the project include the following:

- Vehicle traffic;
- Natural gas consumption; and
- Area sources including architectural coatings, consumer products, fireplaces, and landscaping equipment.

Air pollutants generated by all land uses within the City were calculated for buildout of the City's adopted General Plan (No Project Alternative) and buildout of the project. The results of the emissions modeling are presented in Appendix B. Actual emissions would vary depending on future site-specific projects.

4.2.5 Topic 1: Air Quality Plans

Would the project conflict with or obstruct implementation of the applicable air quality plan?

4.2.5.1 Impact Analysis

The California CAA requires air basins that are designated nonattainment of state AAQS for criteria pollutants prepare and implement plans to attain the standards by the earliest practicable date. The Basin is designated as in attainment or unclassifiable attainment (expected to be meeting the standard despite a lack of monitoring data) for all federal air quality standards except 8-hour ozone and 2.5-micron particulate matter ($PM_{2.5}$) standards. The Basin is designated as in nonattainment for state air quality standards for 8-hour ozone and $PM_{2.5}$, and additionally is in nonattainment of state 10-micron particulate matter (PM_{10}) standards. The regional air quality plan, the 2022 AQMP, outlines measures to reduce emissions of ozone and $PM_{2.5}$. Reducing PM concentrations is achieved by reducing emissions of $PM_{2.5}$ to the atmosphere, reducing ozone concentrations is achieved by reducing the precursors of photochemical formation of ozone, VOC, and NO_X.

The growth forecasting for the AQMP is based in part on the land uses established by local general plans. These emissions budgets are used in statewide air quality attainment planning efforts. As such, projects that propose development at an intensity equal to or less than population growth projections and land use intensity are inherently consistent with the AQMP. Amending the adopted land uses to change development potential would not necessarily result in an inconsistency between

the current air quality plans (that are based on the City's adopted General Plan) and the project. Projects that propose a different land use than is identified in the local general plan may also be considered consistent with the AQMP if the proposed land use is less intensive than buildout under the current designation. For projects that propose a land use that is more intensive than the current designation, analysis that is more detailed is required to assess conformance with the AQMP. Consistency with the AQMP is further evaluated by comparing emissions that would occur under buildout of the City's adopted General Plan to the emissions that would occur under buildout of the project.

The two principal criteria for conformance with an AQMP are:

1. Whether the project would exceed the assumptions in the AQMP.

2. Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timeline attainment of air quality standards.

a. Criterion No. 1

The county-wide population would be the same under buildout of both the City's adopted General Plan and the project. As described in Section 4.11.5.1 below, future development under the project would accommodate increases in population based on SCAG's demographic projections, and would therefore not induce unplanned growth. Furthermore, the project would reduce VMT compared to buildout of the adopted General Plan. This reduction is due to the fact the City currently is a major employment center with a high jobs-to-population ratio. The City has more jobs than can be sustained by the City's own population. Shifting towards a more balanced jobs/population ratio as would occur under the project due to the introduction of more housing units within the City (a major employment center) can be expected to improve VMT metrics. Most of the future residential growth would occur in the three focus areas which include areas of the City that are most suited for new growth and development as they are located near existing job centers, which would reduce VMT. This reduction in VMT would in turn lead to a reduction in operational air quality emissions. Table 4.2-4 presents a comparison of operations emissions under buildout of the City's adopted General Plan and buildout of the project. Calculations are provided in Appendix B.

Table 4.2-4 Total Operational Emissions for the City						
Source	Pollutant (pounds per day)					
	VOC	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
Adopted General Plan (2045)						
Mobile Source	1,068.28	1,839.69	33,999.83	119.11	14,476.88	3,698.14
Area Source	8,723.10	2,194.52	14,295.12	14.68	191.12	187.78
Energy Source	84.10	1,489.51	994.74	9.17	116.20	116.20
TOTAL	**9,875.47**	**5,523.72**	**49,289.69**	**142.96**	**14,784.21**	**4,002.13**
Project (2045)						
Mobile Source	56.42	88.80	1,795.78	6.29	764.63	195.33
Area Source	2,127.01	1,204.91	4,561.45	7.63	96.28	95.82
Energy Source	21.44	367.06	160.16	2.34	29.63	29.63
TOTAL	**2,204.88**	**1,660.77**	**6,517.39**	**16.26**	**890.54**	**320.78**
Change (Project – Adopted General Plan)	**-7,670.59**	**-3,862.95**	**-42,772.30**	**-126.70**	**-13,893.67**	**-3,681.35**

As shown in Table 4.2-4, buildout of the project would result in a decrease in emissions when compared to buildout of the City's adopted General Plan. Therefore, buildout of the project would not exceed the assumptions used to develop the AQMP.

b. Criterion No. 2

As previously stated, the Basin is designated as in attainment or unclassifiable attainment (expected to be meeting the standard despite a lack of monitoring data) for all federal air quality standards except 8-hour ozone and 2.5-micron particulate matter ($PM_{2.5}$) standards. The Basin is designated as in nonattainment for state air quality standards for 8-hour ozone and $PM_{2.5}$, and additionally is in nonattainment of state 10-micron particulate matter (PM_{10}) standards.

Because the proposed General Plan Update involves long-term growth associated with buildout of the City, cumulative emissions generated from operation of individual development projects would exceed the SCAQMD regional and localized thresholds (see discussion under Impact 2, below). Consequently, emissions generated during the construction of development projects in addition to existing sources in the City are considered to cumulatively contribute to the nonattainment designations of the Basin. Future development would be required to adhere to the requirements of California Code of Regulations, Title 13, Section 2449 to reduce nonessential idling (PPP AQ-1), the construction requirements of SCAQMD rules and regulations (PPP AQ-2), and the requirements of the City's grading code (PPP AQ-3).

The goals, objectives, and policies in the Environmental Protection and Climate Action (EPCA) Element would further support the City's goal of reducing air emissions by improving air quality and protect public health in Irvine by reducing air pollution and minimizing harmful emissions from various sources and achieving and maintaining compliance with air quality standards set by regulatory agencies (EPCA Policy). Refer to the above-listed EPCA goals and policies for a comprehensive list of applicable goals, objectives and policies related to air quality.

Despite adherence to these policies and compliance with Standard Conditions and PPPs, buildout of the project could contribute to an increase in frequency or severity of air quality violations and delay attainment of the AAQS or interim emission reductions in the AQMP, and emissions generated from buildout would result in a significant air quality impact. Therefore, the General Plan Update would not be consistent with the AQMP under the second criterion and mitigation requiring project-specific air quality analyses is required (mitigation measure AQ-1).

4.2.5.2 Significance of Impacts

Although the project would not exceed the assumptions used to develop the 2022 AQMP, construction activities associated with the project would result in an increase in the frequency or severity of existing air quality violations. Therefore, the project would conflict with implementation of the AQMP, and impacts would be potentially significant.

4.2.5.3 Mitigation

AQ-1: Applications for future development, wherein the Director of Community Development or their designee has determined a potential for air quality impacts associated with construction, shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City for review and approval. The Director of Community Development or their designee shall make this determination based on the size of the project, whether the project would require a transportation impact analysis, or other criteria. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (SCAQMD) methodology for assessing air quality impacts. The City shall require that applicants for new development projects with the potential to exceed the SCAQMD's adopted thresholds of significance to incorporate the measures listed below to reduce air pollutant emissions during construction activities. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City. Mitigation measures to reduce construction-related emissions could include, but are not limited to:

- Require fugitive-dust control measures that exceed SCAQMD's Rule 403 requirements, such as:
  - Use of nontoxic soil stabilizers to reduce wind erosion.
  - Apply water every four hours to active soil-disturbing activities.
  - Tarp and/or maintain a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Use construction equipment rated by the United States Environmental Protection Agency as having Tier 3 (model year 2006 or newer) or Tier 4 (model year 2008 or newer) emission limits, applicable for engines between 50 and 750 horsepower.
- Ensure that construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limit nonessential idling of construction equipment to no more than five consecutive minutes.
- Limit on-site vehicle travel speeds on unpaved roads to 15 miles per hour.

- Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area.
- Use Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufactures can be found on the SCAQMD's website.

4.2.5.4 Significance of Impacts after Mitigation

The project would not exceed the assumptions used to develop the 2022 AQMP. However, construction activities associated with buildout of the project could generate short-term emissions that exceed the SCAQMD's significance thresholds during this time and cumulatively contribute to the nonattainment designations of the Basin. Implementation of mitigation measure AQ-1 would reduce criteria air pollutant emissions from construction-related activities to the extent feasible. However, construction time frames and equipment for site-specific development projects are not available at this time, and there is a potential for multiple development projects to be constructed at one time, resulting in significant construction-related emissions. Therefore, despite adherence to mitigation measure AQ-1, impacts associated with criteria pollutants would remain significant and unavoidable.

4.2.6 Topic 2: Criteria Pollutants

Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standards?

4.2.6.1 Impact Analysis

Air quality impacts can result from the construction and operation of a project. Construction impacts are short-term and result from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries. Operational impacts can occur on two levels: regional impacts resulting from development or local effects stemming from sensitive receivers being placed close to roadways or stationary sources. In the case of the project, operational impacts would primarily be due to emissions from mobile sources associated with vehicular travel along the roadways.

a. Construction

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

As discussed in Section 4.2.4.1 above, a residential project consisting of 1,500 units, with an average size of 670 square-feet (small apartments), on a 15-acre site was modeled to illustrate potential construction-related air quality impacts associated with future development under the project. The results are summarized in Table 4.2-5. CalEEMod output is contained in Appendix B.

Table 4.2-5 Construction Emissions – 15-Acre Mixed-Use Project						
Construction Phase	Pollutant (pounds per day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	**315.37**	**31.70**	**76.14**	**<1**	**21.25**	**11.41**
SCAQMD Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*

For assessing the significance of the air quality emissions resulting during construction of the hypothetical project, the construction emissions were compared to the SCAQMD Significance Thresholds. As shown in Table 4.2-5, construction of the hypothetical project would exceed the applicable threshold for VOC. Additionally, if several future site-specific projects were to occur simultaneously, there is the potential to exceed significance thresholds.

Future development would be required to implement construction Best Management Practices (BMPs) at all construction sites consistent with SCAQMD rules and regulations. Future construction activities would also be required to comply with PPP AQ-1, which outlines compliance with California Code of Regulations, Title 13, Section 2449, which itself requires that nonessential idling of construction equipment be restricted to five minutes or less. Future construction activities would also be conducted in compliance with any applicable SCAQMD rules and regulations, as outlined in PPP AQ-2, including but not limited to:

- Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance.
- Rule 402, Nuisance, which states that a project shall not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."
- Rule 1113, which limits the volatile organic compound content of architectural coatings.
- Rule 1466, Soil Disturbance. Projects that involve earth-moving activities of more than 50 cubic yards of soil with applicable toxic air contaminants are subject to this rule.

The modeled project is illustrative only. Approval of the project would not specifically permit the construction of an individual project, and no specific development details are available at this program level of analysis. The thresholds presented above would be applied to future development within the City on a project-by-project basis and are not used for assessment of regional planning impacts. The information is presented to illustrate the potential scope of air impacts for a site-specific project that could be developed in the future. Additionally, the regulations at the federal, state, and local level provide a framework for developing project-level air quality protection measures for future projects.

The City's process for the evaluation of future discretionary projects would include environmental review and documentation pursuant to CEQA where applicable, as well as an analysis of those site-specific projects for consistency with the goals, policies, and recommendations of the General Plan. In addition to regulatory measures outlined above, mitigation imposed at the project-level may

include extension of construction schedules and/or use of special equipment and emission control measures in accordance with mitigation measure AQ-1.

While individual site-specific projects may not exceed the SCAQMD regional significance thresholds (demonstrated in Table 4.2-5), the scale and extent of construction activities associated with buildout of the City may result in some instances where future development would exceed the relevant SCAQMD thresholds. Therefore, construction-related regional air quality impacts would be potentially significant.

b. Operation

At the program level, the analysis compares emissions generated by project buildout to emissions generated under buildout of the City's adopted General Plan to determine if the emissions would exceed the emissions estimates included in the AQMP, and to determine whether it would obstruct attainment, or result in an exceedance of AAQS. Under this approach, the potential for future development within the City to result in a cumulatively considerable net increase in emissions based on the change in pollutant emissions that would result from buildout of the City's existing General Plan (adopted in 2000) in the year 2045 compared to buildout of the project in the year 2045. As shown in Table 2.4-4 above, buildout of the project would result in a decrease in emissions compared to buildout of the City's adopted General Plan. Most of the future residential growth would occur in the three focus areas that are most suited for new growth and development as they are located near existing job centers, which would reduce VMT and associated vehicle emissions.

The regulations at the federal, state, and local levels provide a framework for developing project-level air quality protection measures for future site-specific projects that could be developed in the future. The City's process for evaluation of future development that could be implemented under the project would also include environmental review and documentation pursuant to CEQA where applicable, as well as an analysis of those site-specific projects for consistency with the goals, policies, and recommendations of the project. While individual site-specific projects may not exceed the SCAQMD regional significance thresholds, the scale and extent of emissions associated with buildout of the project may result in some instances where future development would exceed the relevant SCAQMD thresholds. Therefore, operational regional air quality impacts would be potentially significant, and mitigation would be required (see mitigation measure AQ-2).

4.2.6.2 Significance of Impacts

a. Construction

The scale and extent of construction activities associated with buildout of the project could exceed the relevant SCAQMD thresholds for some future site-specific development projects. Construction impacts would be potentially significant, and mitigation would be required to implement construction practices and measures that would reduce emissions.

b. Operation

The project would not conflict with implementation of the AQMP,. However, the scale and extent of emissions associated with buildout of the project may result in some instances where operation of future development would exceed the relevant SCAQMD thresholds. Therefore, operational impacts would be potentially significant, and mitigation would be required to reduce emissions.

4.2.6.3 Mitigation

a. Construction

See mitigation measure AQ-1 above.

b. Operation

Impacts related to operational emissions would be significant, and the following mitigation shall be applied to future development:

AQ-2: For individual projects that may exceed the daily operational emissions thresholds established by the SCAQMD, the owner/permitee shall conduct an analysis of the project's operational air quality impacts using the latest available CalEEMod mode, or other analytical method determined in conjunction with the City. If such analyses identify potentially significant regional or local air quality impacts, project-level mitigation and/or project design features would be required to reduce operational impacts to less than significant. Mitigation to reduce operational impacts depends on the specific project, but may include measures such as, but not limited to:

- Demonstrate net zero energy expenditure.
- Implementation of transportation demand management measures.
- Prohibit the installation of woodstoves, hearths, and fireplaces in new construction facilitated by the General Plan Update.
- Expand and facilitate completion of planned networks of active transportation infrastructure.
- Implement electric vehicle charging infrastructure beyond requirements set forth in the 2022 CALGreen mandatory measures, such as Tier 2 voluntary measures set forth in 2022 CALGreen (or future more stringent) standards.
- Implement traffic demand measures, such as unbundling parking fees from rent/lease options, encouraging/developing a ride-share program for the community, and provide car/bike sharing services, that will reduce daily individual car usage and reduce project VMT.

4.2.6.4 Significance of Impacts after Mitigation

a. Construction

Buildout of the project would occur over a period of approximately 20 years or longer. Construction activities associated with buildout of the project could generate short-term emissions that exceed the SCAQMD's significance thresholds during this time and cumulatively contribute to the nonattainment designations of the Basin. Implementation of mitigation measure AQ-1 would reduce criteria air pollutant emissions from construction-related activities to the extent feasible. However, construction time frames and equipment for site-specific development projects are not available at this time, and there is a potential for multiple development projects to be constructed at one time, resulting in significant construction-related emissions. Therefore, despite adherence to mitigation measure AQ-1, impacts associated with criteria pollutants would remain significant and unavoidable.

b. Operation

The project would not conflict with implementation of the AQMP. Buildout of the project would occur over a period of approximately 20 years or longer. Operational emissions associated with buildout of the project could generate emissions that exceed the SCAQMD's significance thresholds during this time and cumulatively contribute to the nonattainment designations of the Basin. Implementation of mitigation measure AQ-2 would reduce criteria air pollutant emissions from construction-related activities to the extent feasible. However, site-specific development projects are not currently available, and there is a potential for operational emissions to exceed the SCAQMD's significance thresholds. Therefore, despite adherence to mitigation measure AQ-2, impacts associated with criteria pollutants would remain significant and unavoidable.

4.2.7 Topic 3: Sensitive Receptors

Would the project expose sensitive receptors to substantial pollutant concentrations?

4.2.7.1 Impact Analysis

a. Localized Carbon Monoxide Hot Spots

It has long been recognized that carbon monoxide (CO) hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the SCAB a CO hotspot analysis was conducted in 2003 by the SCAQMD for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards. Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon

monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue in Los Angeles, which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 parts per million (ppm); this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm). As such, the project considered herein along with background and cumulative development would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations. Therefore, new development adjacent to heavily traveled streets or intersections would not expose sensitive receptors to substantial pollutant concentrations associated with CO hot spots, and impacts would be less than significant. The Level of Service Traffic Study determined that roadway segment and intersection volumes would not exceed 100,000 average daily trips (Iteris 2024). Consequently, the project would not produce the volume of traffic required to generate a CO hot spot either in the context of the 2003 Los Angeles study or BAAQMD CO threshold considerations. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations associated with CO hot spots, and impacts would be less than significant.

b. Toxic Air Emissions

Construction

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Construction of future development and associated infrastructure implemented under the project would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Construction would result in the generation of diesel- exhaust diesel particulate matter (DPM) emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction activities and on-road diesel equipment used to bring materials to and from project sites. Such emissions would have the potential to exceed the SCAQMD's LST thresholds.

Generation of DPM from construction projects typically occurs in a single area for a short period. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (Office of Environmental Health Hazard Assessment 2015). Therefore, if

the duration of proposed construction activities near any specific sensitive receptor were a year, the exposure would be three percent of the total exposure period used for health risk calculation.

Considering this information, the highly dispersive nature of DPM, and the fact that construction activities would occur intermittently and at various locations over the lifetime of project buildout, DPM generated by construction is not expected to create conditions where the probability is greater than 10 in 1 million of developing cancer for the Maximally Exposed Individual, or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than 1 for the Maximally Exposed Individual. Additionally, with ongoing implementation of U.S. EPA and CARB requirements for cleaner fuels; off-road diesel engine retrofits; and new, low-emission diesel engine types; the DPM emissions of individual equipment would be substantially reduced over the years as project buildout continues. Additionally, construction of future projects would adhere to the requirements of California Code of Regulations, Title 13, Section 2449 to reduce nonessential idling (PPP AQ-1), the construction requirements of SCAQMD rules and regulations (PPP AQ-2), and the requirements of the City's grading code (PPP AQ-3) Therefore, the project would not exceed the SCAQMD LST thresholds or expose sensitive receptors to toxic air emissions during construction of future development within the City, and impacts would be less than significant.

Stationary Sources

The project would not result in the construction and operation of a stationary source of TACs. Various uses, such as dry cleaners and gasoline-dispensing facilities, have the potential to be substantial stationary sources that would require a permit from the SCAQMD. Although future site-specific development under the project could be located near existing types of facilities, emissions of TACs are regulated by SCAQMD through permitting and monitoring requirements. The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. In accordance with AB 2588, if adverse health impacts exceeding public notification levels are identified, the facility would provide public notice, and if the facility poses a potentially significant public health risk, the facility would be required to submit a risk reduction audit and plan to demonstrate how the facility would reduce health risks. Therefore, adherence with this regulatory framework would ensure that future development would not expose sensitive receptors to TACs associated with stationary sources within the City, and impacts would be less than significant.

Mobile Sources

In April 2005, CARB published the Air Quality and Land Use Handbook: A Community Health Perspective (CARB 2005). The handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions, while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics, etc.). It notes that the handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected in the CARB Handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this impact analysis, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles/day should be avoided when possible.

The City is generally bounded on the southwest by SR-73 and on the northeast by State Route 241 (SR-241). I-5, I-405, and SR-133 cross through the central portion of the City, and multiple Interstates and State Routes traverse the City and provide connection to surrounding communities throughout the southern California region. Portions of the focus areas are located adjacent to these highways and freeways. However, CARB notes that these recommendations are advisory and should not be interpreted as defined "buffer zones," and that local agencies must balance other considerations such as transportation needs, the benefits of urban infill, community economic development priorities, and other quality-of-life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk, where necessary, CARB's position is that infill development, mixed use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level. Additionally, measures can be incorporated into future site-specific project design that would reduce the level of exposure for future residents. The California Air Pollution Control Officers Association (CAPCOA) published a guidance document, Health Risk Assessments for Proposed Land Use Projects, which provides recommended measures that reduce concentrations of DPM (CAPCOA 2009). These include planting vegetation between the receptor and the freeway, constructing barriers between the receptor and the freeway, and installing newer electrostatic filters in adjacent receptor buildings. Additionally, the 2022 California Building Code – Title 24 requires that all new residential uses include improved air filtration systems. Filters are categorized according to minimum efficiency reporting value (MERV) rating. The higher the MERV rating, the better the filtration. MERV-13 filters are effective at filtering DPM. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations associated with mobile source emissions and impacts would be less than significant. However, the scale and extent of exposure of future development under the amended general plan to mobile sources of TACs cannot be known at this time, and impacts would be potentially significant.

4.2.7.2 Significance of Impacts Topic 3: Sensitive Receptors

Buildout of the project would not result in a CO hot spot. Additionally, construction and operation of future development would not result in the exposure of sensitive receptors to TACs from construction activities or mobile sources. However, future development within the focus areas would potentially place future residential development near existing roadways, which would be considered potentially significant.

4.2.7.3 Mitigation

AQ-3: For individual projects that may site new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles/day, the applicant shall prepare a Health Risk Assessment (HRA) evaluating the potential for sensitive receptors to be exposed to TACs, which shall be required for such individual projects. The HRA shall be prepared in accordance with the policies and procedures of the state Office of Environmental Health Hazard Assessment (OEHHA) and the South Coast Air Quality Management District (SQAQMD). If the HRA shows that the incremental cancer risk and/or noncancer hazard index exceed the respective thresholds, as established by the SQAQMD at the time a project is considered (i.e., 10 in one million cancer risk and 1 hazard index), the project applicant will be required to identify and demonstrate that best available control

technologies to reduce substantial exposure of sensitive receptors to TACs. Examples may include, but are not limited to, air intakes located away from high-volume roadways and/or truck loading zones unless it can be demonstrated that these are operational limitations and/or heating, ventilation, and air conditioning (HVAC) systems provided with appropriately sized maximum efficiency rating value (MERV) filters. Mitigation measures identified in the HRA shall be incorporated into the site development plan as a component of the proposed project. Air intake and MERV filter requirements shall be noted on all building plans submitted to the City of Irvine Community Development Department.

4.2.7.4 Significance of Impacts after Mitigation

Implementation of mitigation measure AQ-3 would reduce exposure of sensitive receptors to mobile source TACs to the extent feasible. However, site-specific development projects are not currently available, and there is a potential for TAC exposure to remain. Therefore, despite adherence to mitigation measure AQ-3, impacts associated with exposure of sensitive receptors to mobile source TACs would remain significant and unavoidable.

4.2.8 Topic 4: Odor

Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

4.2.8.1 Impact Analysis

In the context of land use planning, one of the most important factors influencing the potential for an odor impact to occur is the distance between the odor source and receptors. The greater the distance between an odor source and receptor, the less concentrated the odor emission would be when it reaches the receptor. Odors can be generated from a variety of source types including both construction and operational activities. Although less common, construction activities that include the operation of a substantial number of diesel-fueled construction equipment and heavy-duty trucks can generate odors from diesel exhaust emissions. A project's operations, depending on the project type, can generate a large range of odors that can be considered offensive to receptors. Examples of common land use types that typically generate significant odor impacts include, but are not limited to:

- Wastewater treatment plants
- Sanitary landfills
- Composting/green waste facilities
- Recycling facilities
- Petroleum refineries
- Chemical manufacturing plants
- Painting/Coating operations
- Rendering plants
- Food packaging plants

When land uses such as these or other odor-generating land uses are sited proximate to sensitive receptors, odor impacts may occur and further analysis of the nature of the odor source, the prevailing wind patterns, number of potentially effected receivers and other considerations would be warranted.

Emissions from construction equipment associated with future development facilitated by the proposed project, such as diesel exhaust, and VOCs from architectural coatings and paving activities may generate odors; however, these odors would be temporary, intermittent, and not expected to affect a substantial number of people. Additionally, noxious odors would be confined to the immediate vicinity of construction equipment. By the time such emissions reach a receptor (e.g., people in residential units, day care centers, schools, nursing homes, etc.), they would be diluted to well below any level of air quality concern. Furthermore, short-term construction-related odors are expected to cease upon the drying or hardening of the odor-producing materials. Therefore, construction would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

Future site-specific development under the project would include residential uses, as well as the extension of Ada roadway, and nonresidential uses including a botanical garden, a veteran's memorial garden, a library, a discovery center, two museums, a 65-acre central park area, an accessory restaurant use, an aquatic center, an all-wheel park, and pickleball courts, that are generally not a source of objectionable odors. Additionally, with respect to all development under the project, nuisance odors are regulated under SCAQMD Rule 402, which requires abatement of any nuisance generating a verified odor complaint. Therefore, project operation would not result in odors affecting a substantial number of people, and impacts would be less than significant.

4.2.8.2 Significance of Impacts Topic 4: Odor

The project would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

4.2.8.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.2.9 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probably future projects within the cumulative impact area for air quality. The cumulative study area would be considered the Basin. The evaluation of consistency with the AQMP was cumulative in nature because it considers project consistency with a regional air quality plan that relies on the land use plans of jurisdictions within the Basin. As discussed in Section 4.2.5.1 above, project buildout would generate fewer emissions compared to buildout of the City's adopted General Plan. The project would not exceed the assumptions used to develop the AQMP. However, construction of future development under the project would have the potential to increase in the frequency or severity of existing air quality violations .Although mitigation measure AQ-1 would include measures

to reduce construction emissions, construction time frames and equipment for site-specific development projects are not available at this time, and there is a potential for multiple development projects to be constructed at one time, resulting in cumulatively significant construction-related emissions. Similarly, mitigation measure AQ-2 proposes measures to reduce operation emissions associated with future development, site-specific development projects are not available at this time, and there is a potential for operational emissions to exceed the SCAQMD's significance thresholds, which would result in cumulatively significant impacts. Furthermore, future development may site new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles/day. Although mitigation measure AQ-3 would require such projects to prepare an HRA identifying measures to reduce impacts to TACs, there is a potential for TAC exposure to remain, which would be cumulatively significant. Therefore, despite implementation of mitigation measures AQ-1 through AQ-3, project construction and operation is anticipated to result in cumulatively considerable air quality impacts.

4.3 Biological Resources

This section analyzes potentially significant impacts related to biological resources that could result from implementation of the project. This analysis relies on a biological resources technical report prepared by Alden Environmental, Inc. (Appendix C).

4.3.1 Existing Conditions

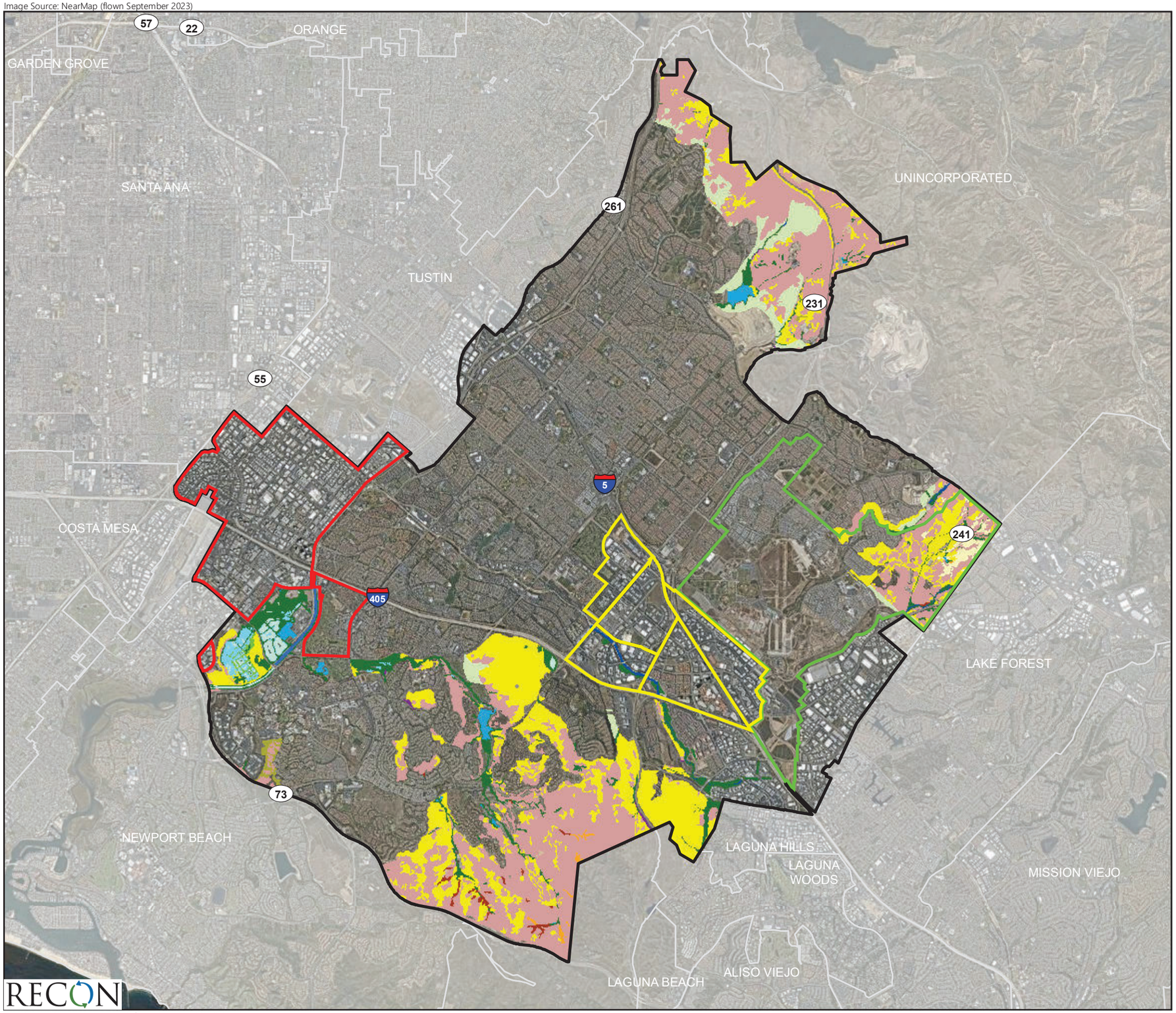
4.3.1.1 Vegetation Communities

Figure 4.3-1 presents the distribution of vegetation communities and land cover types within the city of Irvine (City). Table 4.3-1 presents the acreage of the vegetation communities and land cover types within the City. Seventeen vegetation communities and land cover types occur within the City. Additionally, some of these vegetation communities occur in transitional or ecotonal zones within the City (e.g., estuarine, lacustrine, riverine), where one or more of the definitions provided below may apply. To avoid repetition, each is described separately (e.g., riverine is described once instead of three times for riverine; riverine, barren; and estuarine, lacustrine, riverine). Descriptions of vegetation communities and land cover types present within the City are provided below.

Table 4.3-1
Vegetation Communities in the City

Vegetation Communities	Acres
Annual Grassland	98.83
Annual Grassland, Perennial Grassland	2,864.43
Barren	32.19
Coastal Oak Woodland	51.61
Coastal Scrub	4,587.65
Estuarine, Lacustrine, Riverine	98.54
Eucalyptus	13.86
Fresh Emergent Wetland	105.17
Lacustrine	107.61
Mixed Chaparral	26.81
Orchard-Vineyard, Evergreen Orchard, Irrigated Row and Field Crops	580.29
Perennial Grassland	56.31
Riverine	30.98
Riverine, Barren	50.06
Saline Emergent Wetland	26.47
Urban	45,659.43
Valley Foothill Riparian	788.04
TOTAL	**55,178.28**
SOURCE: California Department of Fish and Wildlife 2018	

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3

Vegetation/Land Cover Types

- Annual Grassland
- Annual Grassland, Perennial Grassland
- Barren
- Coastal Oak Woodland
- Coastal Scrub
- Estuarine, Lacustrine, Riverine
- Eucalyptus
- Fresh Emergent Wetland
- Lacustrine
- Mixed Chaparral
- Orchard-Vineyard, Evergreen Orchard, Irrigated Row and Field Crops
- Perennial Grassland
- Riverine
- Riverine, Barren
- Saline Emergent Wetland
- Urban
- Valley Foothill Riparian

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FIGURE 4.3-1
Vegetation Communities and Land Cover Types

a. Annual Grassland

Annual grassland is open grassland composed primarily of annual plant species. The community's structure depends largely on weather patterns and livestock grazing. Dramatic differences in features, both between seasons and between years, are characteristic of this habitat. Introduced annual grasses are the dominant plant species. These species include wild oats, soft chess, ripgut brome, red brome, wild barley, and foxtail fescue. Common forbs include broadleaf filaree, redstem filaree, turkey mullein, true clovers, bur clover, popcorn flower, and others. California poppy, the State flower, may also be found in this habitat.

b. Perennial Grassland

Perennial grassland consists of climax stands of perennial bunchgrasses, such as purple needlegrass, on wetter sites.

c. Annual Grassland/Perennial Grassland

See Sections 4.3.1.1.a and 4.3.1.1.b above.

d. Coastal Oak Woodland

Coastal live oak woodland occurs in moderately moist areas of coastal California from Sonoma County south into Baja California, Mexico. These woodlands are found within a 50-mile radius of the coast. Fog is common in these areas, and the soils are typically well drained. Although not limited to these areas, coastal live oak woodland is common in ravines and moist drainages between grassy hillsides. The dominant plant species is coast live oak (*Quercus agrifolia*).

e. Mixed Chaparral

Mixed chaparral is a structurally homogeneous community dominated by shrubs with thick, evergreen leaves. Shrub height and crown cover vary considerably with age since last burn, precipitation regime, aspect, and soil type. At maturity, cismontane mixed chaparral typically is a dense, nearly impenetrable thicket with greater than 80 percent absolute shrub cover.

f. Coastal Scrub

Coastal scrub is dominated by semi-woody, low- to moderate-sized shrubs with shallow root systems. No single species is typical of all coastal scrub stands. Species composition changes with progressively drier conditions from north to south along the coast. Species dominance appears to shift from evergreen species in the north to drought-deciduous species in the south.

g. Lacustrine

Lacustrine habitats are inland depressions or dammed riverine channels containing standing water. Depth can vary from a few centimeters to hundreds of meters. Typically, lacustrine habitats include permanently flooded lakes and reservoirs, intermittent lakes, and ponds (including vernal pools).

h. Riverine

Riverine systems consist of intermittent or continually running water. A stream originates at an elevated source, such as a spring or lake, and flows downward at a rate relative to slope or gradient and the volume of surface runoff or discharge. Velocity generally declines at progressively lower altitudes, and the volume of water increases until the enlarged stream finally becomes sluggish. Some streams, except for occasional pools, dry up seasonally every year.

i. Barren

Barren land lacks vegetation, typically because of recent and/or continuous clearing of vegetation. It often consists of rock, gravel, and/or soil. These areas differ from "urban," discussed below, because they do not support buildings, paved roads, parking lots, or ornamental plantings.

j. Riverine, Barren

See Sections 4.3.1.1.h and 4.3.1.1.i above.

k. Estuarine, Lacustrine, Riverine

Estuarine habitats either (1) have constant exchange and interaction with ocean water or marine embayment (estuary, tidal flat, tidal marsh, or eel-grass meadow) or (2) are often separated from ocean water exchange (coastal lagoon). The latter situation is present in the City where lacustrine and riverine habitats in the western part of the City are often separated from Upper Newport Bay waters that occur west of State Route 73 outside the City limits. This same area in the City also supports lacustrine and riverine habitats. See above for descriptions of those habitats.

l. Valley Foothill Riparian

Valley foothill riparian habitats are found in valleys generally associated with low velocity water flow, floodplains, and gentle topography. Some dominant species in the canopy layer are cottonwood (*Populus* spp.), California sycamore (*Platanus racemosa*), and oak (*Quercus* spp.). Typical understory shrub layer plants include species such as wild grape (*Vitis girdiana*), wild rose (*Rosa californica*), California blackberry (*Rubus ursinus*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), poison oak (*Toxicodendron diversilobum*), and willows (*Salix* spp.). The herbaceous layer consists of species such as sedges, rushes, grasses.

m. Eucalyptus

Eucalyptus is an introduced genus, whose tree species have been planted typically for wind blocking, ornamental, and hardwood production purposes. If sufficient moisture is available, this genus becomes naturalized and can reproduce and expand its areal coverage. Eucalyptus occurs in the City in naturalized patches, landscaping, and windrows.

n. Fresh Emergent Wetland

Fresh Emergent Wetlands are flooded frequently and are characterized by dominant vegetation generally consisting of perennial monocots up to 6.6 feet tall. Characteristic species on the upper margins of the habitat include those such as sedges and rushes, and on more alkali sites, saltgrass (*Distichlis* sp.). On wetter sites, potential dominant species include cattail (*Typha* spp.) and bulrushes (*Scirpus* spp.).

o. Saline Emergent Wetland

Saline emergent wetland occurs above intertidal sand and mud flats and below upland communities not subject to tidal action. It is characterized as salt or brackish marsh with characteristic species such as cordgrass (*Spartina* spp.), pickleweed and glasswort (*Salicornia* spp.), bulrushes, and carex (*Carex* spp.).

p. Orchard, Vineyard, Evergreen Orchard, Irrigated Row and Field Crops

Orchards, vineyards, and row crops are land uses primarily to produce food and fiber. On aerial imagery, the chief indications of agricultural activity are distinctive geometric field and road patterns on the landscape and the traces produced by mechanized equipment. The number of building complexes is smaller and the density of the road and highway network is much lower among these land uses than in Urban areas (see Urban below).

q. Urban

Urban lands typically support little to no native vegetation and are characterized by the presence of man-made structures such as buildings, paved roads, parking lots, parks, and residential areas that are either unvegetated or are dominated by exotic, ornamental plant species.

4.3.1.2 Sensitive Biological Resources

Sensitive biological resources include sensitive vegetation communities, special status plant species, special status wildlife species, wildlife movement corridors, and wetland/riparian resources. In general, the principal reason that a species, subspecies, or variety is considered sensitive is the documented or perceived decline or limitation of its population size or geographical extent and/or distribution resulting in most cases from habitat loss. Wildlife movement corridors or linkages also are considered sensitive by local, State, and federal resource and conservation agencies because these corridors allow wildlife to move between adjoining open space areas that are becoming increasingly isolated as open space becomes increasingly fragmented from urbanization, rugged terrain, or changes in vegetation. In addition, wetland and riparian resources are considered sensitive because of their limited distribution and high wildlife value.

Many sensitive biological resources are known to occur or have the potential to occur within the City based on historical data for the region identified through a query of the California Natural Diversity Database (CNDDB) and U.S. Fish and Wildlife Service (USFWS) database, the National Hydrography Dataset, and/or the presence of potentially suitable habitat within the City. Figure 4.3-2 presents the distribution of special status plant and wildlife species and critical habitat within the City. The following section describes these sensitive biological resources.

a. Plant Species

Despite the urbanization of most of the City, there are still areas within the City that provide open space and relatively untouched habitats that support native plant species. The City also supports many agricultural lands and developed areas. While these lands typically support planted crops and orchards as well as ornamental species, respectively, they likely support both native and non-native plant species. Native plant species that can tolerate disturbance, and even thrive in disturbed areas, can be found growing alongside planted crops or as the understory within the orchards. Some of the non-native plant species are likely invasive. Invasive species pose serious environmental threats because they can invade healthy, native ecosystems and degrade the quality of the habitat so that it no longer provides the functions and values of the native ecosystems that occurred there historically. For purposes of this report, special status plant species meet the following criteria:

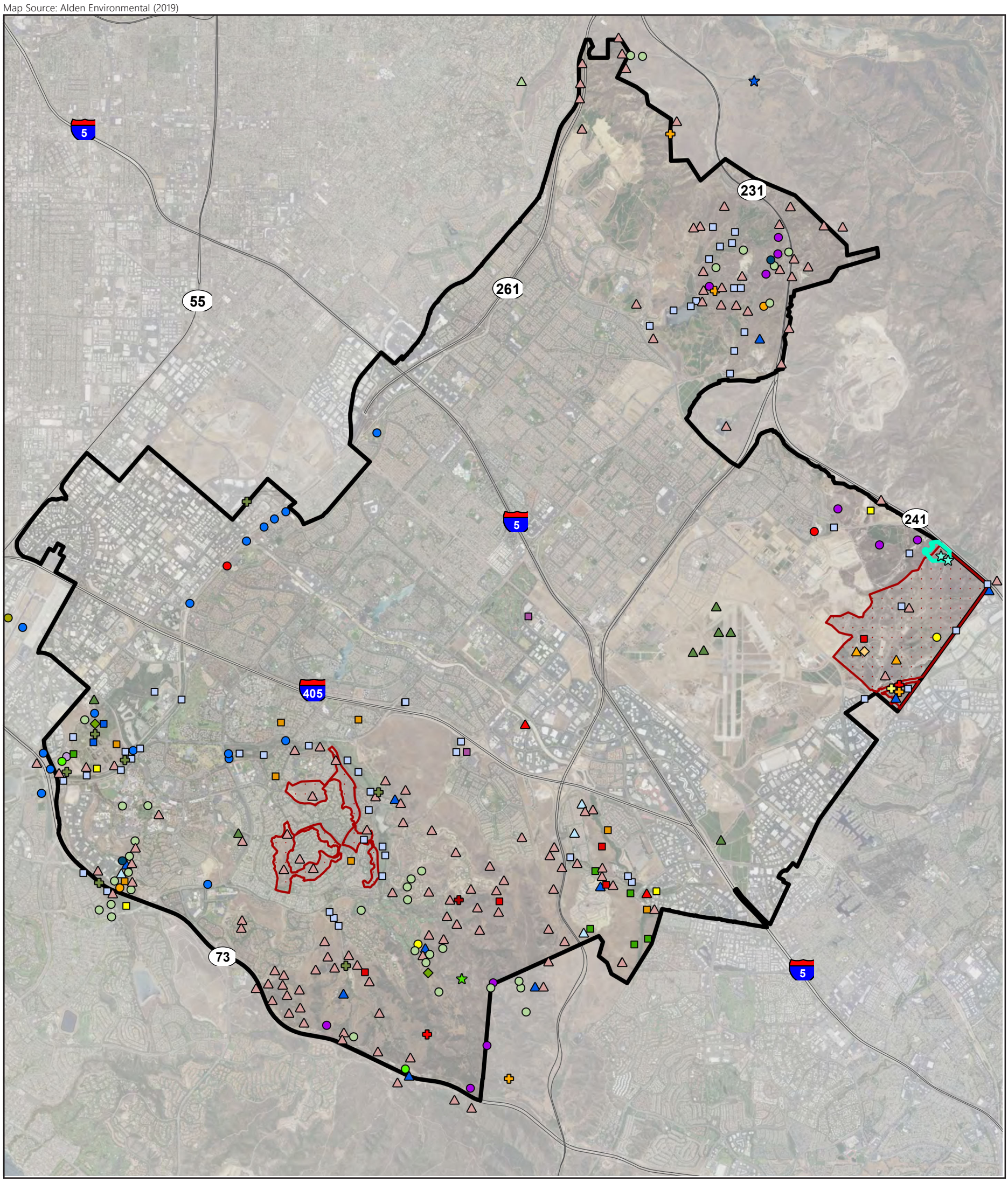
- Listed or proposed for listing by federal or state agencies as threatened or endangered;
- Included on List 1B (considered endangered throughout its range) or List 2 (considered endangered in California but more common elsewhere) of the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California;
- Are considered rare, endangered, or threatened by the California Department of Fish and Wildlife (CDFW) or other local conservation organizations or specialists; and/or
- Covered under the Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP)

Noteworthy plant species are those listed on the following:

- List 3 (more information about the plant distribution and rarity needed) and
- List 4 (plants of limited distribution) of the CNPS Inventory.

There are 33 special status plant species known to occur historically in the region of the City. Ten of these species have been reported within the City or just outside the City limits (see Figure 4.3-2). All 33 special status plant species are summarized in Table 4.3-2. No critical habitat has been designated by the USFWS within the City for any plant species.

Map Source: Alden Environmental (2019)



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City Boundary

USFWS Critical Habitat

coastal California gnatcatcher

Riverside fairy shrimp

Sensitive Plant and Animal Species

Plants

- Allen's pentachaeta
- chaparral ragwort
- Coulter's goldfields
- Coulter's saltbush
- Davidson's saltscale
- intermediate mariposa-lily
- many-stemmed dudleya
- mud nama
- southern tarplant
- Robinson's pepper-grass

Crustaceans

- Riverside fairy shrimp

Amphibians

- Coast Range newt
- western spadefoot

Mammals

- San Diego desert woodrat
- western mastiff bat

Reptiles

- coast horned lizard
- coastal whiptail
- orange-throated whiptail
- red-diamond rattlesnake
- western pond turtle

Birds

- American peregrine falcon
- burrowing owl
- California horned lark
- coastal cactus wren
- coastal California gnatcatcher
- Cooper's hawk
- ferruginous hawk
- grasshopper sparrow
- least Bell's vireo
- light-footed Ridgway's rail
- southern California rufous-crowned sparrow
- tricolored blackbird
- white-tailed kite
- yellow-breasted chat

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FIGURE 4.3-2

Special Status Plant and Wildlife Species and Critical Habitat

Table 4.3-2 Special Status Plant Species Reported within the City or the Region			
Scientific Name / Common Name	Status	Habitat Description	Occurrence Info
Aphanisma blitoides Aphanisma	List 1B.2	Coastal bluffs	May occur within the City because potential habitat may be present.
Astragalus brauntonii Braunton's milk- vetch	FE List 1B.1	Chaparral, coastal scrub, grassland—recent burns or disturbed areas	May occur within the City because potential habitat may be present.
Atriplex coulteri Coulter's saltbush	List 1B.2	Grassland, sage scrub, eroded coastal terrace	Reported in the City (4.3-2).
Atriplex serenana var. *davidsonii* Davidson's saltscale	List 1B.2	Alkaline coastal bluff scrub, coastal scrub	Reported in the City (4.3-2).
Atriplex pacifica South Coast saltscale	List 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, playas	May occur within the City because suitable habitat may be present.
Calochortus catalinae Catalina mariposa lily	List 4.2 Covered	Chaparral, cismontane woodland, coastal scrub, grassland	May occur within the City because suitable habitat may be present.
Calochortus weedii var. *intermedius* Intermediate mariposa-lily	List 1B.2 Covered	Rocky, calcareous chaparral, coastal scrub, grassland.	Reported in the City (4.3-2).
Camissoniopsis lewisii Lewis' evening- primrose	List 3.0	Sand bars with salt marsh	May occur within the City because suitable habitat may be present.
Chloropyron maritimum ssp. *maritimum* Salt marsh bird's- beak	FE SE List 1B.2	Salt marsh	May occur within the City because suitable habitat may be present.
Chorizanthe polygonoides var. *longispina* Long-spined spineflower	List 1B.2	Chaparral, coastal scrub, meadows and seeps, grassland, vernal pools—often with clay soils	May occur within the City because suitable habitat may be present.
Cistanthe maritima Seaside calandrinia	List 4.2	Sandy coastal bluff scrub, coastal scrub, grassland	May occur within the City because suitable habitat may be present.
Convolvulus simulans Small-flowered morning glory	List 4.2	Grassland with clay soil	May occur within the City because suitable habitat may be present.
Deinandra paniculata Paniculate tarplant	List 4.2	Coastal scrub, grassland vernal pools	May occur within the City because suitable habitat may be present.
Dichondra occidentalis Western dichondra	List 4.2 Covered	Chaparral, cismontane woodland, coastal scrub, grassland	May occur within the City because suitable habitat may be present.
Dudleya multicaulis Many-stemmed dudleya	List 1B.2	Coastal scrub, chaparral, grassland—often with clay soil	Reported in the City (4.3-2).
Eleocharis parvula Small spike-rush	List 4.3	Marshes and swamps	May occur within the City because suitable habitat may be present.
Centromadia parryi ssp. *australis* Southern tarplant	List 1B.1	Margins of marshes and swamps, mesic grassland, vernal pools	Reported in the City (4.3-2).

Table 4.3-2 Special Status Plant Species Reported within the City or the Region			
Scientific Name / Common Name	Status	Habitat Description	Occurrence Info
Hordeum intercedens Vernal barley	List 3.2	Coastal dunes, coastal scrub, grassland, vernal pools	May occur within the City because suitable habitat may be present.
Juncus acutus ssp. *leopoldii* Southwestern spiny rush	List 4.2	Mesic coastal dunes, meadows and (alkaline) seeps, coastal salt marshes and swamps	May occur within the City because suitable habitat may be present.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	List 1B.1	Coastal salt marshes and swamps, playas, vernal pools	May occur within the City because suitable habitat may be present, and it was reported just outside the City limits (4.3-2).
Lepidium virginicum var. *robinsonii* Robinson's pepper- grass	List 4.3	Chaparral, coastal scrub	Reported in the City (4.3-2).
Lycium californicum California box- thorn	List 4.2	Coastal bluff scrub, coastal scrub	May occur within the City because suitable habitat may be present.
Malacothrix saxatalis var. *saxatalis* Cliff malacothrix	List 4.2	Coastal bluff scrub, coastal scrub	May occur within the City because suitable habitat may be present.
Microseris douglasii ssp. *platycarpha* Small-flowered microseris	List 4.2	Clay soils in cismontane woodland, coastal scrub, grassland, vernal pools	May occur within the City because suitable habitat may be present.
Nama stenocarpa Mud nama	List 2B.2	Marshes and swamps (lake margins, riverbanks)	Reported in the City (4.3-2).
Navarretia prostrata Prostrate vernal pool navarretia	List 1B.1	Mesic coastal scrub, meadows and seeps, grassland, vernal pools	May occur within the City because suitable habitat may be present.
Nemacaulis denudata var. *denudate* Coast woolly-heads	List 1B.2	Coastal dunes	Not likely to occur in the City due to lack of potential habitat.
Pentachaeta aurea ssp. *allenii* Allen's pentachaeta	List 1B.1	Coastal scrub and grassland	Reported in the City (4.3-2).
Romneya coulterii Coulter's matilija poppy	List 4.2 Covered	Chaparral, coastal scrub—often in burned areas	May occur within the City because suitable habitat may be present.
Senecio aphanactis haparral ragwort	List 2B.2	Chaparral, cismontane woodland, coastal scrub	Reported in the City (4.3-2).
Sidalcea Neomexicana Salt spring checkerbloom	List 2B.2	Mesic chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, playas	May occur within the City because suitable habitat may be present.
Suaeda esteroa Estuary seablite	List 1B.2	Coastal salt marshes and swamps	May occur within the City because suitable habitat may be present.

Table 4.3-2 Special Status Plant Species Reported within the City or the Region			
Scientific Name / Common Name	Status	Habitat Description	Occurrence Info
Symphyotrichum defoliatum San Bernardino aster	List 1B.2	Near ditches, streams, springs--cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, vernally mesic grassland	May occur within the City because potential habitat may be present.

b. Sensitive Wildlife

A variety of resident and migratory wildlife species occur within the City. The City provides habitat for both common and special status species including invertebrates, amphibians, reptiles, birds, and mammals. For purposes of this report, special status wildlife species meet the following criteria:

- Listed or proposed for listing as threatened or endangered by the USFWS or the CDFW;
- Designated as Birds of Conservation Concern by the USFWS;
- Designated as California Fully Protected or California Species of Special Concern by the CDFW; and/or
- Covered under the Orange County NCCP/HCP.

In addition, raptors (birds of prey) and active raptor nests are protected by the California Fish and Game Code 3503.5, which states that it is "unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird" unless authorized. The federal Migratory Bird Treaty Act (MBTA), which restricts the killing, taking, collecting, selling, or purchasing of native bird species or their parts, nests, or eggs, also provides legal protection for almost all breeding bird species occurring in the U.S. The MBTA is supplemented by the Bald and Golden Eagle Protection Act (BGEPA), which provides protection for both the bald eagle and the golden eagle by prohibiting the "take" of either of these species, including their parts, nests, or eggs. Noteworthy wildlife species are those given the informal designation of California Species of Concern by the CDFW. This designation applies to animals not listed under Federal and California Endangered Species Acts (FESA or CESA), but which nonetheless (1) are declining at a rate that could result in listing or (2) historically occurred in low numbers and known threats to their persistence currently exist. Species that are federal- or state-listed threatened or endangered are afforded a degree of protection that entails a permitting process, including specific mitigation measures to compensate for impacts to the species.

There are 59 special status wildlife species known to occur within the region historically. Twenty-four of these species have been reported within the City or just outside the City limits (4.3-2). All 59 special status wildlife species are summarized in Table 4.3-3. Critical habitat has been designated by the USFWS for two species within the City: Riverside fairy shrimp (*Streptocephalus woottoni*) and coastal California gnatcatcher (*Polioptila californica californica*) (see Figure 4.3-2).

Table 4.3-3 Special Status Wildlife Species Reported within the City or the Region			
Scientific Name / Common Name	Status	Habitat Description	Occurrence Info
Invertebrates			
Branchinecta sandiegonensis San Diego fairy shrimp	FE Covered	Vernal pools or other ephemeral basins in coastal southern California south to extreme northwestern Baja California, Mexico	May occur within the City because suitable habitat may be present.
Streptochephalus woottoni Riverside fairy shrimp	FE Covered	Restricted to a few vernal pools in southwestern Riverside, Orange, and San Diego counties	Reported in the City, and critical habitat has been designated in the City (Figure 4.3-2).
Fish			
Eucyclogobius newberryi Tidewater goby	FE CSC	Shallow brackish lagoons and lower stream reaches	May occur within the City because potential habitat may be present.
Amphibians			
Aneides lugubris Arboreal salamander	Covered	Moist places in a variety of habitats from coastal dunes to woodlands	May occur within the City because suitable habitat may be present.
Anaxyrus californicus Arroyo toad	FE CSC Covered	Breeds in shallow pools along stream edges with sand/gravel flats between March and June. Adults use sage scrub, mixed chaparral, oak woodland habitats up to within one mile of breeding sites.	May occur within the City because suitable habitat may be present.
Batrachoseps nigriventris Blackbelly slender salamander	Covered	Moist places, mainly in woodlands, but also found in grasslands and riparian habitats	May occur within the City because suitable habitat may be present.
Spea hammondii Western spadefoot	CSC Covered	Washes, river floodplains, alluvial fans, playas, alkali flats, temporary ponds, vernal pools in mixed woodlands, grasslands, coastal sage scrub, and chaparral. Surface activity October to April. Oviposition late February to May in temporal pools and slow-moving sections of streams	Reported in the City (Figure 4.3-2).
Taricha torosa Coast Range newt	CSC	In southern California, habitats include drier chaparral, oak woodland, and grasslands	Reported just outside the City limits (Figure 4.3-2).
Reptiles			
Phrynosoma blainvilii Coast horned lizard	CSC Covered	Scrubland, grassland, coniferous woods, and broadleaf woodlands, especially in areas with sandy soils, scattered shrubs, and ant colonies, such as along the edges of arroyo bottoms or dirt roads.	Reported in the City (Figure 4.3-2).
Aspidoscelis hyperythra Orange-throated whiptail	WL Covered	Open coastal sage scrub, chaparral, and streamside growth with loose sandy soils, revegetation sites.	Reported in the City (Figure 4.3-2).
Aspidoscelis tigris stejnegeri Coastal western whiptail	CSC Covered	Coastal sage scrub, chaparral, and wash habitats	Reported in the City (Figure 4.3-2).

Table 4.3-3 Special Status Wildlife Species Reported within the City or the Region			
Scientific Name / Common Name	Status	Habitat Description	Occurrence Info
Anniella stebbensi Southern California legless lizard	CSC	Found in leaf litter and loose soil on beaches and in coastal scrub, chaparral, and open riparian habitats. Sandy washes and beach dunes are used for burrowing, while logs and leaf litter are used for cover and feeding	May occur within the City because suitable habitat may be present.
Charina trivirgata rosy boa	Covered	Rocky areas in coastal sage scrub and chaparral	May occur within the City because potential habitat may be present.
Crotalus ruber red-diamond rattlesnake	CSC Covered	Arid scrub (including coastal sage scrub), chaparral, woodlands, and cultivated areas, often with large rocks or boulders	Reported in the City (figure 4.3-2).
Diadophis punctatus modestus San Bernardino ringneck snake	Covered	Semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains	May not occur in the City due to limited or lacking potential habitat.
Emys marmorata Western pond turtle	CSC	Slow-water aquatic habitats with available basking sites (e.g., submerged logs, open mud banks)	Reported in the City (Figure 4.3-2).
Plestiodon skiltonianus interparietalis Coronado skink	WL Covered	Occurs in variety of mesic habitats including coastal sage, chaparral, oak woodlands, pinon-juniper, and riparian woodlands to pine forests	May occur within the City because potential habitat may be present.
Salvadora hexalepis virgultea Coast patch-nosed snake	CSC	Semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains	May occur within the City because potential habitat may be present.
Thamnophis hammondii Two-striped garter snake	CSC	Permanent fresh water, inhabiting streams, ponds, vernal pools. Occupies adjacent coastal sage scrub and grasslands during the winter	May occur within the City because potential habitat may be present.
Birds			
Accipiter cooperii Cooper's hawk	WL	Occurs in various woodland habitats, including riparian	Reported in the City (Figure 4.3-2).
Accipiter striatus Sharp-shinned hawk	WL Covered	Woodland areas and open lowlands	May occur within the City because potential habitat may be present.
Agelaius tricolor Tricolored blackbird	BCC CSC, (SE Candidate)	Cattail or tule marshes; forages in fields, farms. Breeds in large freshwater marshes in dense stands of cattails or bulrushes. At all seasons (including when breeding), does most of its foraging in open habitats such as farm fields, pastures, cattle pens, and large. lawns	Reported in the City (Figure 4.3-2).
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	WL Covered	Coastal sage scrub, coastal bluff scrub, low-growing chaparral	Reported in the City (Figure 4.3-2).
Ammodramus savannarum Grasshopper sparrow	CSC	Grasslands, prairies, hayfields, and open pastures with little to no scrub	Reported in the City (Figure 4.3-2).

Table 4.3-3 Special Status Wildlife Species Reported within the City or the Region			
Scientific Name / Common Name	Status	Habitat Description	Occurrence Info
		cover and often with some bare ground	
Aquila chrysaetos golden eagle	CFP, WL Covered	Requires vast foraging areas in grassland, broken chaparral, or sage scrub. Nests on cliffs and boulders	May not occur within the City because of limited potential habitat.
Athene cunicularia Burrowing owl	BCC CSC	Grassland, agricultural land, coastal dunes	Reported in the City (Figure 4.3-2).
Buteo lineatus Red-shouldered hawk	Covered	Riparian woodland	May occur within the City because suitable habitat may be present.
Buteo regalis Ferruginous hawk	BCC WL	Winter resident of grassland and agricultural areas in southwestern California	Reported in the City (Figure 4.3-2).
Campylorhynchus brunneicapillus sandiegensis (San Diego and Orange counties only) Coastal cactus wren	BCC CSC Covered	Coastal sage scrub and chaparral plant communities with substantial cacti (Opuntia spp.) stands	Reported in the City (Figure 4.3-2).
Charadrius alexandrinus nivosus Western snowy plover	FT, BCC CSC	Breeds primarily on coastal beaches from southern Washington to southern Baja California, Mexico. The Pacific coast population breeds above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries	May occur within the City because potential habitat may be present.
Circus hudsonius Northern harrier	CSC Covered	Open habitats, such as grasslands and fields, as well as marshes	May occur within the City because suitable habitat may be present.
Coccyzus americanus occidentalis western, yellow-billed cuckoo	FT, BCC SE	Extensive riparian woodlands	May not occur within the City because of limited or lacking potential habitat.
Elanus leucurus white-tailed kite	CFP	Nests in riparian woodland, oaks, sycamores and forages in open, grassy areas	Reported in the City (Figure 4.3-2).
Empidonax traillii extimus southwestern willow flycatcher	FE SE Covered	Nests in extensive willow- dominated riparian forests and woodlands, occasionally oak woodlands	May not occur within the City because of limited or lacking potential habitat.
Eremophila alpestris actia California horned lark		Short vegetation or bare ground and low-growing or fallow agricultural fields	Reported in the City (Figure 4.3-2).
Falco peregrinus anatum American peregrine falcon	BCC CFP Covered	Nests in open landscapes with cliffs or tall man-made structures. Found along coastlines, shorelines, etc. where shorebird or rock pigeon prey occurs	Reported just outside the City limits (Figure 4.3-2).
Icteria virens Yellow-breasted chat	CSC	Dense riparian woodland	Reported in the City (Figure 4.3-2).

Table 4.3-3 Special Status Wildlife Species Reported within the City or the Region			
Scientific Name / Common Name	Status	Habitat Description	Occurrence Info
Ixobrychus exilis Least bittern	BCC CSC	Dense marshes	May occur within the City because suitable habitat may be present.
Lanius ludovicianus loggerhead shrike	BCC CSC	Open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree woodland habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches	May occur within the City because potential habitat may be present.
Laterallus jamaicensis coturniculus California black rail	BCC ST, CFP	Salt marshes, freshwater marshes, and wet meadows	May occur within the City because suitable habitat may be present.
Passerculus sandwichensis beldingi Belding's savannah sparrow	SE	Coastal salt marsh	May occur within the City because potential habitat may be present.
Polioptila californica californica coastal California gnatcatcher	FT CSC Covered	Coastal sage scrub, maritime succulent scrub	Reported in the City (Figure 4.3-2).
Pelecanus erythrorhynchos American white pelican	CSC	Breeds mainly on isolated islands in freshwater lakes or on ephemeral islands in shallow wetlands. Forages in marshes, along lake or river edges, and in wetlands	May occur within the City because potential habitat may be present.
Pelecanus occidentalis californicus California brown pelican	CFP	Nests from the Channel Islands along the Baja California coast and in the Gulf of California to coastal southern Mexico. Builds nests of sticks on the ground, typically on Islands or offshore rocks. Between breeding seasons, wanders along the west coast	May not occur within the City because of limited or lacking potential habitat.
Phalacrocorax auratus Double-crested cormorant	WL	Lakes and ponds	May occur within the City because potential habitat may be present.
Plegadis chihi White-faced ibis	WL	Freshwater wetlands and marshes but also may feed in flooded meadows, agricultural fields, and estuarine wetlands	May occur within the City because potential habitat may be present.
Rallus obsoletus levipes Light-footed Ridgway's rail	FE SE, CFP	Salt marshes and lagoons	Reported in the City (Figure 4.3-2).
Rynchops niger Black skimmer	CSC	Mostly ocean beaches, tidewater. Favors coastal waters protected from open surf such as lagoons, estuaries, inlets, and sheltered bays. Occurs locally on inland lakes	May occur within the City because potential habitat may be present.
Setophaga petechia yellow warbler	BCC CSC	Well-developed riparian habitats, often with mature willows, usually in close proximity to water along streams and meadows	May occur within the City because suitable habitat may be present.

Table 4.3-3 Special Status Wildlife Species Reported within the City or the Region			
Scientific Name / Common Name	Status	Habitat Description	Occurrence Info
Sternula antillarum browni California least tern	FE SE, CFP	Nests are situated on barren to sparsely vegetated places near water, normally on sandy or gravelly substrates, and may appear along marine or estuarine shores in areas free from humans or predators. Wintering locations are unknown	May not occur within the City because of limited or lacking potential habitat.
Vireo bellii pusillus Least Bell's vireo	FE SE Covered	Dense, stratified canopy within willow-dominated woodland or scrub, Baccharis scrub, mixed oak/willow woodland, mesquite woodland, and elderberry scrub in riparian habitat	Reported in the City (Figure 4.3-2).
Mammals			
Antrozous pallidus pallid bat	CSC	Open desert scrub, grasslands, shrub lands, woodlands, and forests. Roosts in rock crevices, caves, mines, tree hollows, and buildings	May occur within the City because potential habitat may be present.
Chaetodipus fallax fallax Northwestern San Diego pocket mouse	CSC	Sparse, disturbed coastal sage scrub or grasslands with sandy soils.	May occur within the City because suitable habitat may be present.
Eumops perotis californicus western mastiff bat	CSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc., roosts in crevices in vertical cliff faces, high buildings, trees, and tunnels, and travels widely when foraging.	Reported in the City (Figure 4.3-2).
Lepus californicus bennettii San Diego black- tailed jackrabbit	CSC	Open areas of scrub, grasslands, agricultural fields with ample grasses and forbs.	May occur within the City because potential habitat may be present.
Neotoma lepida intermedia San Diego desert woodrat	CSC Covered	Coastal sage scrub and chaparral. Prefers rock outcrops.	Reported in the City (Figure 4.3-2).
Perognathus longimembris pacificus Pacific pocket mouse	FE CSC	Fine-grained, sandy or gravelly substrates in coastal strand, coastal dunes, river alluvium, and coastal sage scrub growing on marine terraces. Nearly all historic observations of are within 4 km (approximately 2.48 miles) of the Pacific coast, with a few as far as 6 km (approximately 3.72 miles). Currently known only from Dana Point Headlands in Orange County, California and three locations on Marine Corps Base Camp Pendleton in San Diego County.	May not occur within the City because it is largely too far inland.
Sorex ornatus salicornicus Southern California saltmarsh shrew	CSC	Salt marsh	May occur within the City because suitable habitat may be present.

Table 4.3-3 Special Status Wildlife Species Reported within the City or the Region			
Scientific Name / Common Name	Status	Habitat Description	Occurrence Info
Taxidea taxus American badger	CSC	Drier, open stages of shrub steppes, agricultural fields, open woodland forests, and large grass and sagebrush meadows and valleys with friable soils	May occur within the City because suitable habitat may be present.
Status: FE = Federal endangered; FT = Federal threatened; BCC = Birds of Conservation Concern; SE = State endangered; ST = State threatened; CFP = California Fully Protected; CSC = California Species of Special Concern; WL = CDFW Watch List; Covered = Covered under the NCCP/HCP			

c. Wildlife Movement Corridors

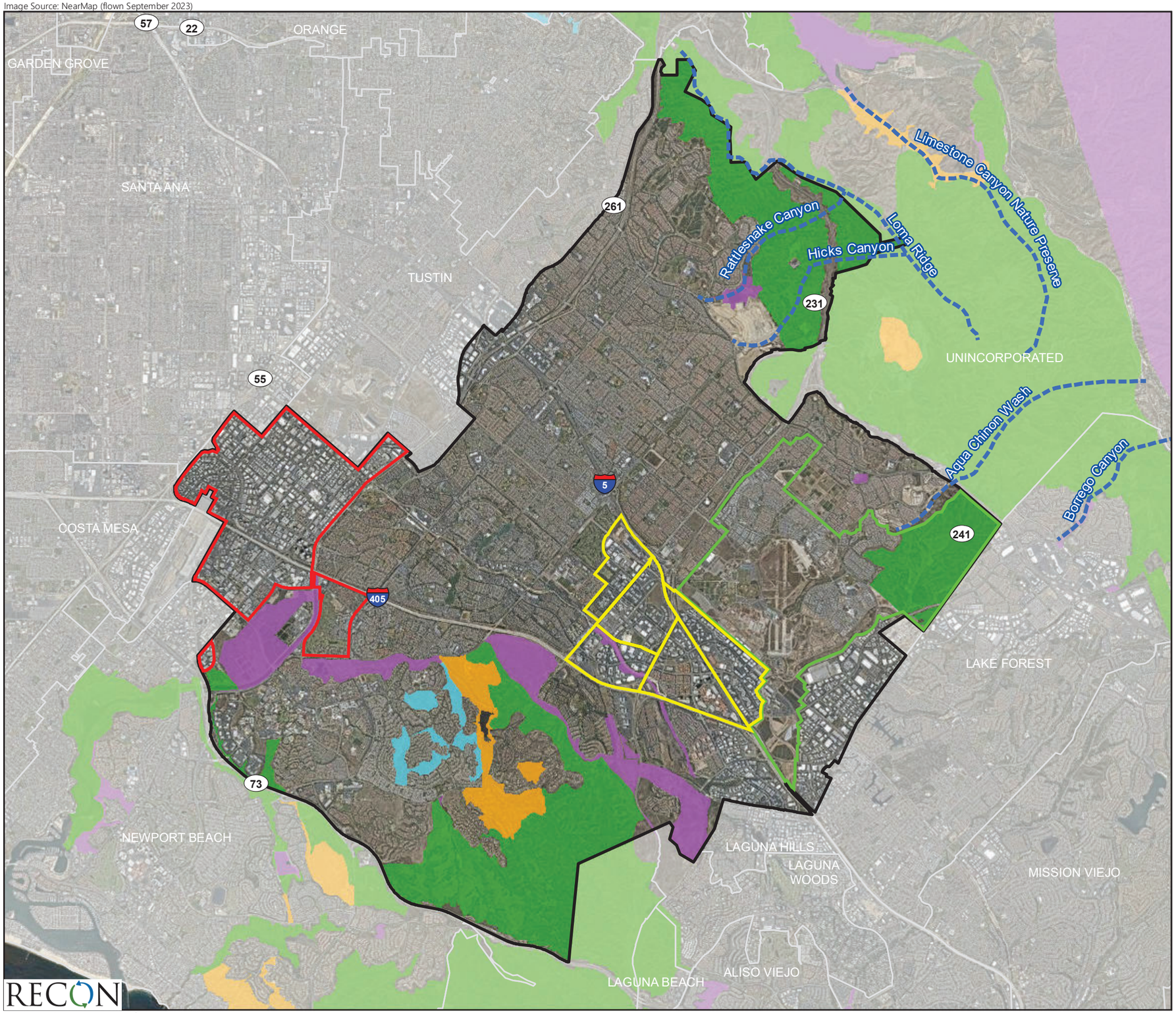
Wildlife corridors are essential to maintain populations of healthy and genetically diverse plant and wildlife species. Because the isolation of plant and wildlife populations can have many harmful effects on local and regional species' populations, and may contribute significantly to local species extinctions, wildlife corridors are important to sustain individual species distributions within these habitat fragments.

The Irvine Open Space Initiative created the framework to preserve large, contiguous open space areas for conservation and open space as phased master-planned growth occurred in other areas of the City. The City has committed to protect and manage the Irvine Open Space Preserve consistent with the NCCP. With respect to portions of the Orange County NCCP/HCP within the City, 10,587 acres are designated for the NCCP habitat reserve system, and 813 acres are non-reserve lands called special linkages. Figure 4.3-3 presents the portion of the NCCP/HCP habitat reserve system and the NCCP/HCP special linkages located in the City.

There are several wildlife corridors located within the City; Hicks Canyon, Rattlesnake Canyon, Loma Ridge, Limestone Canyon, and upper Borrego Canyon form wildlife corridors that stretch to the Cleveland National Forest. Wildlife corridors are also preserved along the Eastern Transportation Corridor at Agua Chinon and the State Route 241/State Route 133 interchange.

Historically, a wildlife corridor also connected lands in the City's northern sphere (e.g., Santiago Hills) to coastal lands along the Pacific Ocean. In 2013, the City Council adopted the Wildlife Corridor Plan, taking a step toward creating a wildlife corridor that would link protected lands in the Laguna Coast to wilderness areas that include the Cleveland National Forest, Whiting Ranch, and Limestone Canyon.

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3
Wildlife Corridors

Orange County NCCP

Reserve
Non-Reserve Open Space
Special Linkage
Existing Use Areas

0 Miles 1.5

RECON

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FIGURE 4.3-3
Wildlife Corridors and NCCP Areas

d. Critical Habitats

Sensitive vegetation communities are vegetation assemblages, associations, or subassociations that have cumulative losses throughout the region, have relatively limited distribution, support or potentially support sensitive plant or wildlife species, or have value to other wildlife. Typically, sensitive vegetation communities are considered sensitive whether or not they have been disturbed. Determination of the level of sensitivity is based on the Nature Conservancy Heritage Program Status Ranks that rank both species and plant communities on a global and statewide basis according to the number and size of remaining occurrences as well as recognized threats such as proposed development, habitat degradation, and invasion by non-native species.

Based on a California Sensitive Natural Communities search, 10 sensitive vegetation communities were identified within the City and are listed below. According to the CDFW (2018), natural communities with ranks of 1 to 3, or Y (for alliances), are considered sensitive.

Vegetation communities that are wetland and/or riparian resources are also considered sensitive biological resources and are regulated by the U.S. Army Corps of Engineers (USACE), CDFW, and/or Regional Water Quality Control Board (RWQCB) pursuant to several federal and state regulations.

- Perennial Grassland (Y)
- Annual/Perennial Grassland (Y; annual grassland is not sensitive, but perennial is)
- Coastal Oak Woodland (Y)
- Coastal Scrub (Y)
- Lacustrine (Wetland/Riparian)
- Riverine (Wetland/Riparian)
- Riverine (Wetland/Riparian), Barren (the barren portion of this community is not sensitive)
- Estuarine, Lacustrine, Riverine (Wetland/Riparian)
- Freshwater Emergent Wetland (Y, Wetland)
- Saline Emergent Wetland (Y, Wetland)

e. Wetland and Riparian Resources

Wetland and riparian resources within the City are considered sensitive biological resources and are regulated by the USACE, CDFW, and/or RWQCB pursuant to several federal and state regulations. Wetland and riparian resource types are listed in Section 4.3.1.2.d above. A description of each agency's jurisdiction is provided in this section, and the potential wetland and riparian resources within the City are discussed as well.

Potential jurisdictional resources in the City include streams/rivers, lakes/ponds, reservoirs, inundation areas, canals/ditches, and associated habitats (coast live oak woodland; estuarine, lacustrine, riverine; fresh emergent wetland; lacustrine; riverine; riverine, barren; saline emergent wetland; and valley foothill riparian). The major wetlands/waterways in the City include San Diego Creek, Peters Canyon Wash, and San Joaquin Wildlife Sanctuary.

The increased demand for housing and employment in Orange County has resulted in substantial land use changes from agriculture to urban development within the San Diego Creek's watershed. Most of the creek has been converted to a concrete flood control channel, but it does provide aquatic

and riparian habitats along its course and its tidal estuary near the San Joaquin Wildlife Sanctuary and Upper Newport Bay. Peters Canyon Wash, a tributary of San Diego Creek, is mostly channelized and flows southwest from the Peters Canyon Reservoir near the Orange/Tustin border to its confluence with San Diego Creek near the Irvine Civic Center Plaza.

The San Joaquin Wildlife Sanctuary is a 300-acre constructed wetland in the floodplain of San Diego Creek just above its outlet to Upper Newport Bay. The original restoration of the wetlands began in 1988 and was completed in 2000. The site serves a dual purpose of removing nitrates from the creek's water and providing bird habitat. The Southern California Wetlands Recovery Project has a plan to restore and enhance 120 acres of perennial marsh habitat in San Joaquin Marsh.

4.3.2 Applicable Regulatory Requirements

4.3.2.1 Federal Regulations

a. National Environmental Policy Act

The National Environmental Policy Act (NEPA), passed in 1969, created a nationwide framework aimed at protecting the environment. The policy ensures that all branches of the government must consider environmental effects prior to any major federal action that may significantly affect the environment. NEPA is applied when projects are undertaken, funded, or require the insurance of a permit by a federal agency. The federal agency proposing to implement the federal action holds responsibility in complying with NEPA; however, multiple federal agencies may be involved with the NEPA process for any given project, as Lead Agency or Cooperating Agency.

The Lead Agency has supervisory duties and is responsible for preparing the appropriate environmental document: a Categorical Exclusion, Finding of No Significant Impact, Environmental Assessment, or Environmental Impact Statement. The Cooperating Agency has an assisting role in the entire NEPA process. The U.S. Environmental Protection Agency (U.S. EPA) is required to review and publicly comment on the environmental impacts of major proposed federal actions, particularly when an Environmental Impact Statement is required. If the U.S. EPA determines that the environmental analysis is unsatisfactory or that the proposed action would have adverse environmental effects, it is required to involve the Council of Environmental Quality in the NEPA process.

b. Federal Endangered Species Act

The United States Congress passed the FESA in 1973 to provide a means for conserving endangered and threatened species to prevent species extinction and, extirpation. The FESA has three major components: the Section 7 requirement for federal agencies to consult with the USFWS to ensure that their actions are not likely to jeopardize the continued existence of species or result in the modification or destruction of critical habitat; the Section 9 prohibition against "taking" listed species; and the Section 10 provisions for permitting the incidental take of listed species. The term "take" is defined by the FESA to include the concept of "harm," which agency regulations define to include death or injury that results from modification or destruction of a species habitat (50 Code of Federal Regulations [CFR] 17.3). Each of these major components is described in more detail below.

Section 7 of the FESA

Section 7 of the FESA provides that each federal agency undertaking a federal action that could significantly affect FESA species shall consult with the Secretary of Interior or Commerce, that any actions authorized, funded, or carried out by the agency are "not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of lands determined to be critical habitat" (16 United States Code [USC] Section 1536(a)(2)). The term "agency action" is broadly defined in a manner that includes nearly all actions taken by federal agencies such as permitting or carrying out a project, as well as actions by private parties that require federal agency permits or approval (50 CFR Section 402.02). The consultation requirement of Section 7 is triggered upon a determination that a proposed action "may affect" a listed species or designated Critical Habitat (50 CFR Section 402.14(a)). If the proposed action is a "major construction" activity, the federal agency proposing the action must prepare a biological assessment to include with its request for the initiation of Section 7 consultation.

Included in the USFWS Biological Opinion is an Incidental Take Statement (ITS) that authorizes a specified level of take anticipated to result from the proposed action. The ITS contains "reasonable and prudent measures" that are designed to minimize the level of incidental take, adverse modification, or destruction to critical habitat, and that must be implemented as a condition of the take authorization (50 CFR Section 402.14(i)(5)).

The issuance of a Biological Opinion concludes formal consultation, but consultation can be reinitiated if the amount or extent of incidental take authorized is exceeded, the action changes, new information reveals effects of the action not previously considered, or a new species is listed, or Critical Habitat is designated (50 CFR Section 402.16). Once the Biological Opinion is issued, the project applicant must implement the terms and conditions, and conservation measures, mandated by the USFWS. Monitoring and reporting is required to be coordinated with the USFWS during the implementation of conservation measures.

Section 9 of the FESA

Section 9 of the FESA prohibits any person from "taking" an endangered animal species. Regulations promulgated by USFWS and the National Oceanic and Atmospheric Administration make the "take" prohibition generally applicable to threatened animal species as well (50 CFR 17.71). Section 9 thus prohibits the clearing of habitat that results in death or injury to members of a protected species.

An authorization or permit to incidentally take listed species can be obtained either through the Section 7 consultation process or through the Section 10 incidental take permit process. In the context of Section 7, incidental take is authorized through an ITS that is issued consistent with a Biological Opinion. Measures required to conform to the ITS are contained in "reasonable and prudent measures," as are the terms and conditions necessary to implement those measures. In the context of Section 10, incidental take is authorized through an incidental take permit issued pursuant to Section 10(a)(1)(B). Measures contained in the incidental take permit reflect the measures set out in a habitat conservation plan developed by the applicant in conjunction with the USFWS.

Section 10 of the FESA

Under Section 10(a)(1)(B) of the FESA, the USFWS may permit the incidental take of listed species that may occur because of an otherwise lawful activity. To obtain a Section 10(a)(1)(B) permit, an applicant must prepare a habitat conservation plan that meets the following five criteria: (1) the taking will be incidental to an otherwise lawful activity; (2) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; (3) the applicant will ensure that adequate funding for the plan will be provided; (4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and (5) other measures, if any, that the USFWS requires as being necessary or appropriate for purposes of the plan will be met (16 USC Section 1539(a)(2)(A)).

c. Clean Water Act of 1972 (33 USC 1251 et seq.)

Sections 404 and 401 of the Clean Water Act (CWA) of 1972 apply to potential impacts to wetlands, Waters of the U.S., and Waters of the State. The U.S. EPA administers the CWA; however, some sections of the CWA are administered by other agencies. Section 404 of the CWA regulates the discharge of dredged or fill material into navigable waters, including both wetlands and other Waters of the U.S. The discharge of dredged or fill material is typically associated with a variety of development projects, agricultural activities, and water resource projects. The USACE administers Section 404 of the CWA and is responsible for issuing general and individual permits and for making jurisdictional determinations. Section 401 of the CWA requires a State Water Quality Certification or waiver for any activity requiring a Section 404 permit. The State Water Quality Certification ensures the activity will not violate any established state water quality standards. The State Water Resources Control Board, in conjunction with the nine California RWQCBs, administers Section 401 of the CWA and is responsible for issuing permits pursuant to the Section 401 Water Quality Certification Program. The City is within the jurisdiction of the Santa Ana RWQCB (Region 8).

Prior to any installation of any new storm drain connections to and/or discharges into the San Diego Creek or San Joaquin Marsh, the City or other project applicants shall (1) obtain a permit or other authorization from the USACE pursuant to Section 404 of the federal CWA; (2) obtain a Section 401 Water Quality Certification from the California RWQCB, Santa Ana region, pursuant to Section 401 of the CWA, which requires any applicant for a federal permit, such as a CWA Section 404 permit, to provide the licensing agency a certification from RWQCB that the project will comply with adopted water quality standards; and 3) provide notification to the CDFW of the project pursuant to Section 16-2 of the Fish and Game Code and comply with any further actions required by CDFW.

d. Migratory Bird Treaty Act (16 USC 703 through 711)

The MBTA of 1918 implements various conventions and treaties between the United States and Canada, Mexico, Japan, and Russia for the protection of over 800 migratory bird species. Under the MBTA, it is unlawful to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird…or any part, nest, or egg of any such bird" (16 USC 703).

The MBTA is administered by USFWS. Take permits for MBTA species are rarely issued, except for specific actions to aid recovery of a species; however, USFWS establishes hunting seasons for species for which there is a long tradition of hunting, if hunting will not adversely impact their population status or long-term conservation. While the MBTA includes approximately 170 species of game birds, hunting is typically authorized for fewer than 60 of these species each year.

e. United States Army Corps of Engineers

The USACE has primary federal responsibility for administering regulations that concern waters and wetlands in the City. In this regard, the USACE acts under two statutory authorities, the Rivers and Harbors Act (33 USC, Sections 9 and 10), which governs specified activities in navigable waters, and the CWA (Section 404), which governs specified activities in waters of the U.S., including wetlands and special aquatic sites. Wetlands and non-wetland waters (e.g., rivers, streams, and natural ponds) are a subset of waters of the U.S. and receive protection under Section 404 of the CWA. The USACE has primary federal responsibility for administering regulations that concern waters and wetlands in the project area under statutory authority of the CWA (Section 404). In addition, the regulations and policies of various federal agencies mandate that the filling of wetlands be avoided to the maximum extent feasible. The USACE requires obtaining a permit if a project proposes placing structures within navigable waters and/or alteration of waters of the U.S.

f. Bald and Golden Eagle Protection Act (16 USC 668)

The BGEPA provides protection for both the bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) by prohibiting the "take" of either of these species, including their parts, nests, or eggs. The MBTA defines "take" as to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" any bald or golden eagle. The BGEPA is administered by the USFWS, and limited take authorizations are granted for qualifying activities. Persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle [or any golden eagle], alive or dead, or any part, nest, or egg thereof" without prior approval are subject to criminal penalties.

g. Fish and Wildlife Coordination Act (16 USC 661 et seq.)

The Fish and Wildlife Coordination Act (FWCA) of 1934, as amended, requires coordination with USFWS and CDFW so that these agencies may evaluate impacts to fish and wildlife species that have the potential to result from proposed water resource development projects. Specifically, the FWCA requires that fish and wildlife species as well as habitats that may support them be given equal consideration to other project features. The FWCA also requires federal agencies that construct, license, or permit water resource development projects to first coordinate with USFWS and CDFW to determine impacts that may occur to fish and wildlife resources and establish appropriate avoidance, minimization, and/or mitigation measures to reduce these potential impacts.

h. Floodplain Management and Protection of Wetlands (42 FR 26961, 52 FR 34617)

Executive Order 11990, Protection of Wetlands, as amended, requires federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance functions and values

of these wetlands while carrying out their responsibilities pertaining to water supply, erosion and flood prevention, maintenance of natural systems, among others.

i. Invasive Species (64 FR 6138)

Executive Order 13112, Invasive Species, as amended, requires federal agencies to coordinate efforts that prevent the introduction of invasive species (both plant and wildlife species not native to the U.S.), manage existing invasive species, and minimize the economic, ecological, and human health impacts that are caused by invasive species. This order defines invasive species, requires federal agencies to address invasive species concerns, and prohibits new actions that would cause or promote the introduction of invasive species. To comply with this order, all enhancement, restoration, and creation activities should use native plants and should include measures to prevent the introduction of invasive species.

4.3.2.2 State Regulations

a. California Endangered Species Act (Fish and Game Code 2050 et seq.)

The CESA parallels FESA and protects and/or preserves native plant and wildlife species and their habitats, especially those that are threatened with extinction and those that are experiencing significant decline that may lead to a threatened or endangered designation, within the state of California. CESA designates special status species that are protected from unauthorized "take", which is defined as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

CESA is administered by the CDFW. A state lead agency is required to consult with the CDFW to ensure that a project is not likely to jeopardize the continued existence of a special status species or result in the destruction or adverse modification of essential habitat for a species. CESA allows for the issuance of incidental take permits for lawful development projects and emphasizes the benefits of early consultation between the lead agency and CDFW to avoid potential impacts to special status species and to develop appropriate mitigation measures to reduce impacts to and avoid loss of a special status species.

b. California Environmental Quality Act: Treatment of Listed Plant and Animal Species

FESA and CESA protect only those species formally listed as threatened or endangered (or rare in the case of the state list). Section 15380 of the California Environmental Quality Act (CEQA) Guidelines independently defines "endangered" species of plants or animals as those whose survival and reproduction in the wild are in immediate jeopardy and "rare" species as those who are in such low numbers that they could become endangered if their environment worsens. Therefore, a project normally would have a significant effect on the environment if it would substantially affect a rare or endangered species of animal or plant or the habitat of the species. The significance of impacts to a species under CEQA must be based on analyzing actual rarity and threat of extinction despite legal status or lack thereof.

c. California Fish and Game Code

Several sections of the California Fish and Game Code, which is administered by the CDFW, also may apply to future projects proposed in the City. These include Section 2081; Sections 1600 through 1616; Sections 1900, et seq.; Sections 2511, 4700, 5050, and 5515; Sections 3503, 3503.5, and 3513; and Title 14, California Code of Regulations, Section 670.2 and 670.6. Each of these sections is discussed in detail below.

Section 2081

Section 2081 of the California Fish and Game Code allows for the issuance of an incidental take permit from CDFW for projects that have the potential to take a special status species, including a State-listed species, if the impacts are minimized and fully mitigated and will not jeopardize the continued existence of a State-listed species. The measures required to minimize and fully mitigate impacts must be roughly proportional to the extent of the proposed impact to the species and must be capable of successful implementation while maintaining the applicant's objectives to the greatest extent feasible. The applicant must show that adequate funding is available to implement the required avoidance and mitigation measures and monitor the effectiveness of the mitigation measures.

Sections 1600 to 1616

Sections 1600 through 1616 of the California Fish and Game Code apply to all projects that would (1) substantially divert or obstruct the natural flow of, (2) substantially change or use any material from, or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement into the bed, channel, or bank of any river, stream, or lake. Sections 1600 through 1616 require any person, business, public utility, or state or local government agency that proposes any activity within or adjacent to a lake, river, or stream that flows at least intermittently through a bank or channel, including watercourses with a subsurface flow (e.g., ephemeral streams, desert washes) and some flood plains, to notify the regional CDFW office of the proposed activity. CDFW will determine if the proposed activity may substantially adversely affect fish and wildlife resources and if a Streambed Alteration Agreement (SAA) is necessary.

Other Sections

Additional sections of the California Fish and Game Code may apply to future projects proposed in the City, including, but not limited to, Sections 1900 through 1913; Sections 2511, 4700, 5050, and 5515; Sections 3503, 3503.5, and 3513; and Title 14, California Code of Regulations, Section 670.2 and 670.6. Sections 1900 through 1913 provide guidelines to preserve, protect, and enhance endangered or rare native plants within California. Sections 2511, 4700, 5050, and 5515 provide guidelines to protect wildlife species that are designated as "fully protected" by the CDFW, and therefore cannot be harmed, taken, or possessed. Sections 3503, 3503.5, and 3513 state that it is unlawful to take, possess, or destroy the nest or eggs of any bird species, except otherwise allowed by California Fish and Game Code. Section 3503.5 provides protection specifically in the orders Falconiformes (hawks, eagles, and flacons) and Strigiformes (owls), and Section 3513 provides protection specifically for migratory, non-game birds designated by the MBTA. Title 14, California Code of Regulations, Section

670.2 and 670.6 list wildlife species that are designated as California Species of Concern or are state listed as threatened or endangered species.

d. California Porter-Cologne Water Quality Control Act

The California Porter-Cologne Water Quality Control Act was enacted in 1969 and is administered by either the State Water Resources Control Board and/or the RWQCB. This act provides protection for Waters of the State, which are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." If a proposed project involves alteration to any Waters of the State, the project proponent must file a Report of Waste Discharge with the appropriate RWQCB to obtain "Waste Discharge Requirements" (WDRs), which serve as the project discharge permit.

e. California Natural Community Conservation Plan Program

The California NCCP program was initiated in 1991 and is administered by CDFW. It is a cooperative effort by the CDFW and numerous public and private partners that takes a broad scale, ecosystem approach to planning for the protection and perpetuation of biological diversity throughout California by protecting both habitats and the species within these habitats while also accommodating compatible land use.

An NCCP plan identifies and provides for the regional protection of plants, wildlife, and their habitats, while allowing compatible and appropriate economic activity in the region. By including key interests in the process and by working with landowners, environmental organizations, and other interested parties, an NCCP plan provides the framework for a local agency to oversee the numerous activities that compose the development of a conservation plan. Within California, there are currently 23 active NCCP plans covering more than 11 million acres, and several draft NCCP plans are pending approval. The City is a signatory to the Implementation Agreement of the NCCP/HCP for the central and coastal subregion of Orange County. This is implemented at the local level through the Irvine Open Space Initiative. See Section 4.3.2.3.a for this information.

4.3.2.3 Regional Regulations

a. Orange County Central and Coastal Natural Community Conservation Plan/Habitat Conservation Plan

In May of 1996, the City, the County of Orange, various other cities, and landowners entered into an agreement to place certain lands within the NCCP/HCP Reserve and commit to certain responsibilities under this plan. Most of the northeastern part of the City is part of the NCCP/HCP. Additional NCCP/HCP reserve lands also exist in other parts of the City. Development is limited within the NCCP/HCP areas to "Covered Activities" and compatible uses. All proposals for development that are within the NCCP/HCP are required to meet these requirements and would be reviewed by the City prior to approval.

b. Local Coastal Program

Implementation of Coastal Act policies are accomplished primarily through the preparation of a Local Coastal Program (LCP). The LCP is typically prepared and adopted by a municipality or county, and then reviewed and approved by the Coastal Commission. Under the California Coastal Act, "environmentally sensitive area" denotes any area in which plant or animal life, or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. The LCP protects water quality and the biological productivity of coastal waters, promotes avoidance and minimization of dredging, diking, and filling sediments, and provides mitigation of wetland impacts. The LCP primarily covers 40 acres within the western area of the Irvine Business Complex.

4.3.2.4 Local Regulations

a. Irvine Open Space Initiative

In 1988, City residents approved the "Irvine Open Space Initiative." This initiative created the framework to preserve large, contiguous open space areas for conservation and open space as phased master-planned growth occurred in other areas of the City. This initiative set the stage for the preservation of natural open space resources that are home to a variety of wildlife species and habitats, including special status species. The Irvine Open Space Preserve, as it now is known, protects more than 93,000 acres of land from the "mountains to the sea," linking the Cleveland National Forest, San Joaquin Marsh (San Joaquin Wildlife Sanctuary), Laguna Coast Wilderness Park, and other resources.

The Cleveland National Forest encompasses 460,000 acres and is the southernmost national forest in California located in San Diego, Riverside, and Orange counties. The San Joaquin Wildlife Sanctuary is a 300-acre constructed wetland in the floodplain of San Diego Creek just above its outlet to Upper Newport Bay. The Laguna Coast Wilderness Park encompasses 7,000 acres in the San Joaquin Hills and features some of the last remaining undeveloped coastal canyons in southern California and the only natural lakes in Orange County.

The City has committed to protect and manage the Irvine Open Space Preserve consistent with the NCCP/HCP. The City and many other local governments and public and private agencies adopted the NCCP/HCP to cover this area. Of the NCCP/HCP acres in the City, 10,587 are designated for the habitat reserve system, and 813 acres are non-reserve lands called special linkages. The special linkages contain biological value that could enhance connectivity between elements of the reserve system. The City is required to implement the NCCP/HCP and review project proposals for consistency with the plan.

b. Existing General Plan (2000)

The existing general plan established a preservation land use designation with the aim of identifying lands that contain visually significant ridgelines, biotic communities of high significance, geologic constraints, and cultural resources. This designation covers more than 11,000 acres, or nearly one-

quarter of the land mass in the City. The Conservation and Open Space Element identifies goals, objectives, and policies to maintain and preserve these resources.

Key objectives and policies include, but are not limited to, the following:

Objective L-1: Implementation Action Program. Establish an implementation action program that provides the opportunity to permanently protect and preserve designated conservation and open space areas as development of designated commercial, industrial, institutional, and residential areas occurs.

Objective L-2: Biotic Resources. Maintain and preserve areas with significant and diverse biotic communities.

- Policy (f): Locate intensive human use in preservation areas away from areas with rare or endangered species, including migratory bird species and rare plant species..
- Policy (j): Light-sensitive biotic areas should be protected from glare caused by outdoor lighting fixtures.
- Policy (k): If determined necessary through project review, a wall or fence combined with vegetation screening shall be constructed between light-sensitive habitat areas and adjacent urban development. Similar measures should be taken wherever light and glare might produce adverse impacts upon light-sensitive biotic areas.

Objective L-3: NCCP/HCP Implementation Areas. Participate in the Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) program to accomplish multi-species and multi-habitat conservation.

Objective L-12: Water. Coordinate land planning efforts with the appropriate federal, state & local agencies and landowners to encourage the integration of existing and future water sources (reservoirs, lakes, and drainage courses) into development.

c. Municipal Code

Title 5 (Planning), Division 7 (Sustainability in Landscaping), Chapter 4 (Urban Forestry)

Chapter 4, also known as the Urban Forestry Ordinance, outlines the provisions for the protection and enhancement of the existing urban forest resource by application of sustainability in landscaping policies and through the provision of professional management. For example, if any trees are removed, the applicant is required to carry out a tree survey and obtain a permit for their removal in accordance with the City's urban forestry ordinance (including 1:1 replacement).

Title 3 (Community Services), Division 4 (Parks), Chapter 1 (In General)

Section 3-4-132 (Protection of Natural, Cultural, Structural and Archaeological Resources) of Chapter 1 prohibits any person from possessing, destroying, injuring, defacing, removing, digging or disturbing from its natural state any of the following: plants, wildlife, artifacts, minerals, landscape structures, improvements, wood, and natural products.

d. Zoning Ordinance

Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District)

Section 5-8-4.A.1 (Development Adjacent to San Diego Creek or San Joaquin Marsh) of Chapter 5-8 outlines the provisions for development adjacent to the San Diego Creek or San Joaquin Marsh, including: the prohibition of highly reflective glass windows and use of building angles in order to reduce light and glare impacts on the creek and marsh environment and reduce the incidence of bird collisions, and the prohibition of the use of exotic plant species in landscape plans that may be invasive to native habitats.

Chapter 8-16 (Open Space Management and Conservation Plan)

Chapter 8-16 of the Zoning Ordinance, Open Space Management and Conservation Plan (OSMCP) requires the preparation of plans for qualified development projects. The OSMCP facilitates compliance with biotic policies identified in biotic resources objectives L-2, and L-3, and L-12 of the Conservation and Open Space Element, the timing and phasing of mitigation measures, and the responsibilities for implementation. It is required that the OSMCP is prepared in conjunction with a concept plan and/or zone change application and in accordance with the City's guidelines for open space management and conservation plan reports. Additionally, the plan must address "transition zones" described in the Zoning Ordinance.

e. Commission Resolution No. 09.2968

Standard conditions are adopted by Planning Commission Resolution No. 09-2968 that assist staff in applying standardized wording for frequently used conditions of approval to discretionary and subdivision applications. Standard conditions are applied on a case-by-case basis depending upon the specifics of the application. Companion conditions are cross-referenced and are required to be used together. The following standard conditions related to hazards and hazardous materials apply:

Standard Condition 2.20 (Wildlife Habitat Clearance)

Prior to the issuance of permits for any grading activity including, but not limited to, clearing, grubbing, mowing, discing, trenching, grading, fuel modification, agriculture planting activity, and/or other related construction activity for a project that will involve removal of native plant communities and wildlife habitat, the applicant shall obtain written authorization from the appropriate Federal, State, and local agencies having jurisdiction over the habitat area. The authorization shall state that said activity complies with the regulations enforced by those agencies. Additionally, any mitigation requirements set forth by such agencies shall be incorporated into the project's final design plans. This written authorization, along with plans and mitigation measures, shall be submitted to the

Director of Community Development for review and shall have been approved by the Director prior to issuance of a permit for any grading activity.

Standard Condition 3.13 (Open Space Education)

Prior to issuance of the first building permit for a project adjacent to open space, location, design, and text for wild land interface signage shall be approved by the Director of Community Services in conjunction with the approval of the Master Landscape and Trails Plan, if any, or the Landscape Plan. The signage shall be located at all trailheads adjacent to the development. The signage shall educate users of the responsibilities associated with wild land interface and shall address relevant issues including the role of natural predators in the wild lands and how to minimize impacts of human and domestic pets on native communities and their inhabitants.

Standard Condition 6.10 (Open Space Education)

For any project adjacent to open space, the project applicant or subsequent builder shall distribute a wild land interface brochure to all owners, residents, and/or tenants (to be obtained from The Nature Reserve of Orange County www.naturereserveoc.org) to educate owners, residents, and/or tenants of the responsibilities associated with living at the wild land interface. The brochure shall address relevant issues, including the role of natural predators in the wild lands and how to minimize impacts of human and domestic pets on native communities and their inhabitants.

Standard Condition 6.11 (Open Space Landscaping)

Prior to the issuance of landscape construction plans for lots adjacent to any open space areas, the interface between the natural and developed areas shall be designed to employ techniques to minimize slopes and decrease slope angles, as well as, where appropriate, recreate natural features (i.e., drainage courses, rock outcroppings, landscaping, etc.), especially within areas adjacent to the NCCP Reserve, pursuant to the provisions of the approved NCCP/HCP. The landscape plans shall be reviewed by the Director of Community Services, and approved by the Director of Public Works, with regard to the landscaped interface.

f. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the proposed project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the proposed project and will help to reduce and avoid potential impacts related to biological resources:

- PPP BIO-1: Compliance with Section 404 of the CWA
- PPP BIO-2: Compliance with Section 401 of the CWA
- PPP BIO-3: Compliance with Section 1600 of the California Fish and Game Code
- PPP BIO-4: Compliance with the MBTA
- PPP BIO-5: Compliance with the Orange County Central and Coastal NCCP/HCP
- PPP BIO-6: Compliance with CESA

- PPP BIO-7: Compliance with Zoning Ordinance Division 8- Conservation and Open Space Phased Dedication Districts, Chapter 8-16 (Open Space Management and Conservation Plan)
- PPP BIO-8: Compliance with Zoning Ordinance Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District)
- PPP BIO-9: Compliance with Municipal Code Title 5 (Planning), Division 7 (Sustainability in Landscaping), Chapter 4 (Urban Forestry)
- PPP BIO-10: Compliance with Standard Condition 2.20 (Wildlife Habitat Clearance)

Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed Goals, Objectives, Policies, and Implementation Actions are applicable to the analysis of biological resources and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Conservation and Open Space Element

Goal 2: Implement the Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) agreement and program to accomplish multi-species and multi-habitat conservation.

Objective COS-2. Effectively implement the Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) agreement and program to achieve comprehensive conservation goals, including the preservation and management of diverse species and habitats across the designated area, ensuring long-term ecological sustainability and biodiversity conservation.

- **Policy (a)**: Review project proposals within the reserve system to assure consistency with the NCCP/HCP implementation agreement and program.
- **Policy (b)**: Assure that nonparticipating landowners provide evidence of payment of mitigation fees.
- **Policy (**c) Manage all City open space lands enrolled in the NCCP/HCP Reserve System consistent with the terms, conditions and obligations of the NCCP/HCP permit and Implementation Agreement and associated RRMPs, including the City's obligation to restore CSS habitat in exchange for development of the open space trail system authorized in the RRMP.
- **Policy (d)**: Use the NCCP as a Program EIR for CEQA purposes, applying the Coastal Sage Scrub (CSS) mitigation measures applicable to planned activities.
- **Policy (e)**: Adopt fuel modification ordinances and standards consistent with the Fuel Modification Zones established in the NCCP/HCP.
- **Policy (f)**: Encourage and avoid adverse impacts to wildlife movement corridors connecting the Santa Ana Mountains to the coast open space areas of Bommer and Shady Canyons, Laguna Coast Wilderness Park and Crystal Cove State Park.

Goal 5: Maintain and preserve large, contiguous areas which contain significant multiple hazards and resources.

Objective COS-5. Safeguard and conserve large, contiguous areas housing significant and diverse hazards and resources, ensuring their preservation and maintenance to mitigate environmental risks and support ecological sustainability within the City's conservation and open space framework.

- **Policy (d)**: Ensure that riparian vegetation is not significantly modified, except as necessary to provide fire protection, access roads, and flood control, drainage, water, sewer and utility facilities, and except where habitat is to be enhanced as part of a mitigation program approved by the California Department of Fish and Wildlife or Implementation of the NCCP/HCP.
- **Policy (e)**: Participate in cooperative efforts with federal, state, and county agencies and landowners in planning, managing, and restoring regionally significant conservation and open space areas within the City and its sphere of influence (Lomas Ridge, Bommer and Shady Canyons, and San Joaquin Marsh).
- **Policy (g)**: Maintain significant riparian areas within preservation areas as natural corridors, sources of shelter, and water for wildlife.
- **Policy (h)**: Minimize intensive human use in preservation areas which sustain rare or endangered species, including migratory birds and rare plant species. Ensure use patterns and levels remain consistent with the NCCP/HCP and associated Recreation and Resource Management Plan (RRMPs).
- **Policy (i)**: Preserve and enhance the San Joaquin Marsh as a habitat resource and mitigation bank through implementation of the "San Joaquin Marsh Habitat Enhancement and Wetlands Creation Program."
- **Policy (j)**: Seek the least environmentally damaging and feasible alternatives where modifications of the natural topography are necessary in preservation area. Ensure that all impacts to preservation areas enrolled in the NCCP/HCP reserve system are consistent with the Implementation Agreement and associated RRMPs.
- **Policy (k)**: Ensure that any public road, arterial highway, transportation corridor, or utility that must pass through preservation areas outside the NCCP/HCP Reserve is the least environmentally damaging feasible alternative to the preservation area's environmental characteristics.
- **Policy (l)**: Ensure continuity and continued enhancement of the Agua Chinon and Wildlife Corridor in Planning Area 51.
- **Policy (m)**: Encourage special linkages for wildlife corridors, when feasible and suitable, within the City and sphere of influence as well as in non NCCP/HCP Reserve areas containing "target and identified species."

4.3.3 Significance Determination Thresholds

The City has adopted Appendix G of the State CEQA Guidelines as the significance thresholds for biological resources. A project would normally have a significant effect on the environment if the project would:

1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife (CDFW) or US Fish and Wildlife Service (USFWS);

2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

3) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

5) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance; or

6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.3.4 Methodology

A biological resources technical report was prepared for the project that included a review of current federal, state, and local regulations; aerial imagery; U.S. Geological Survey (USGS) topographic maps; U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey maps; climate information for the City; and reputable online resources that provide data for the region. In addition, existing biological resource documents for the Central and Coastal Subregion of Orange County, California NCCP/HCP were also reviewed for pertinent information. Queries were also made of the CNDDB and USFWS Listed Species Database to identify known sensitive biological resources in the vicinity of the City.

4.3.5 Topic 1: Sensitive Species

Would the project result in a substantial adverse impact, either directly or through habitat modifications, to any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the CDFW or USFWS?

4.3.5.1 Impact Analysis

The proposed project would facilitate future development consisting of residential uses required to meet the City's Regional Housing Needs Assessment (RHNA) requirement, nonresidential uses within the Great Park, continued development of nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Buildout of the project would have the potential to directly and/or indirectly impact candidate, sensitive, or special status species. Potential direct impacts would include removal of habitat through future development and redevelopment projects that support sensitive species. As noted below, while future development would largely occur within the focus areas on developed and/or disturbed land and avoid known occurrences of sensitive species, future development may occur throughout

the City, including on vacant parcels with habitat types that may support sensitive species. Additionally, future development may result in indirect impacts to sensitive plant or wildlife species due to excess noise, lighting, or runoff generated during construction of projects both within and outside the focus areas. Furthermore, project construction could result in direct impacts to nesting or migratory birds from the removal of mature trees and/or native vegetation within project areas during the typical bird breeding season (January 15 to September 15; PPP BIO-4).

The project has been designed to minimize impacts to sensitive species by primarily focusing on future development and redevelopment within the proposed Focus Areas. Figure 4.3-1 presents the locations of the proposed Focus Areas in relation to mapped vegetation communities. As shown in Figure 4.3-1, there are no mapped vegetation communities within Focus Area 1, limited amounts in Focus Area 2, and some habitat in Focus Area 3. Additionally, the mapped vegetation communities in Focus Area 2 overlap with the Orange County NCCP/HCP Non-Reserve Open Space presented in Figure 4.3-3, and the mapped vegetation communities in Focus Area 3 overlap with the Orange County NCCP Reserve. Therefore, focusing development and redevelopment within areas that consist primarily of developed and/or disturbed land would minimize adverse impacts to sensitive species. All future development would be required to demonstrate compliance with CESA (PPP BIO-6), as well as the requirements of the MBTA for the protection of nesting birds, especially during the breeding season (January 15 to September 15). Furthermore, Goal 2, Objective COS-2 and Goal 5, Objective COS-5 of the Conservation and Open Space Element Update includes objectives and policies aimed to further conserve and restore natural ecosystems, protect biodiversity, and expand access to green space. Compliance with updated Conservation and Open Space Element goals, objectives, and policies would serve to further support the City's goal of protecting biological resources.

Figure 4.3-2 presents the locations of the proposed Focus Areas in relation to recorded sensitive species observations within the City. As shown in Figure 4.3-2, the proposed Focus Areas have few sensitive species observations, with most observations located within surrounding conserved areas with habitat value. While future development would largely occur within the focus areas on developed and/or disturbed land and avoid known occurrences of sensitive species, future development may occur throughout the City, including on vacant parcels with habitat types that may support sensitive species. Additionally, future development may result in indirect impacts to sensitive plant or wildlife species due to excess noise, lighting, or runoff generated during construction of projects both within and outside the focus areas. Furthermore, project construction could result in direct impacts to nesting or migratory birds from the removal of mature trees and/or native vegetation within project areas during the typical bird breeding season (January 15 to September 15). At a program level of analysis, it cannot be known with certainty that impacts to sensitive species.

4.3.5.2 Significance of Impacts

At a program level of analysis, it cannot be known with certainty that impacts to sensitive species could be fully avoided, which would be considered a potentially significant impact.

4.3.5.3 Mitigation

As part of the project approval process, each future proposed project shall include an initial site assessment to determine if sensitive biological resources could be present within and/or adjacent to the proposed development project and whether the project site lies inside the NCCP/HCP Reserve System (including the Irvine Open Space Preserve of the Irvine Open Space Initiative) or Special Linkage Areas or whether it lies outside. If no sensitive biological resources have a potential to occur within and/or adjacent to the proposed project, the City may approve the proposed project to proceed without further biological resource analyses. If sensitive biological resources have potential to occur, the following general biological mitigation measures would apply.

BIO-1: Prior to project approvals, applicants for future development projects with the potential to disturb sensitive biological resources shall include a biological resources survey. The survey shall be conducted by a qualified biologist. The biological resources survey shall include, but not be limited to:

- A search of available literature and biological databases, such as CNDDB to determine sensitive biological resources that have been reported from the proposed project vicinity.
- Mapping vegetation communities on the proposed project site.
- A general assessment and mapping of all potential jurisdictional resources (wetlands and riparian habitats).
- Evaluating wildlife movement corridors in the vicinity of the proposed project site.

BIO-2: If the proposed development project site supports vegetation communities that may provide habitat for special status plant or animal species, a focused habitat assessment shall be conducted by a qualified biologist to determine the potential for special status plant and/or animal species to occur within or adjacent to the proposed development project area.

BIO-3: If one or more special status species has the potential to occur within the proposed development project area, focused species surveys shall be conducted to determine the presence/absence of these species to adequately evaluate potential direct and/or indirect impacts to these species.

BIO-4: If construction activities are not initiated immediately after focused surveys have been completed, additional pre-construction special status species surveys may be required to assure impacts are avoided or minimized to the extent feasible. If pre-construction activities are required, a qualified biologist would perform these surveys as required for each special status species that is known to occur or has a potential to occur within or adjacent to the proposed development project area.

BIO-5: The results of the biological survey shall be presented in a biological survey letter report for proposed development projects with no significant impacts, or in a

biological technical report for proposed development projects with significant impacts that require mitigation to reduce the impacts to below a level of significant.

BIO-6: If sensitive biological resources are identified within or adjacent to the proposed development project area, the construction limits shall be clearly flagged to ensure impacts to sensitive biological resources are avoided or minimized to the extent feasible. Prior to implementing construction activities, a qualified biologist shall verify that the flagging clearly delineates the construction limits and that sensitive resources to be avoided.

BIO-7: If sensitive biological resources are known to occur within or adjacent to the proposed development project area, a project-specific contractor training program shall be developed and implemented to educate project contractors on the sensitive biological resources within and adjacent to the proposed development project area and measures being implemented to avoid and/or minimize impacts to these species. A qualified biologist shall develop and implement the contractor training program.

BIO-8: If sensitive biological resources are present within or adjacent to the proposed development project area and impacts may occur from implementation of construction activities, a qualified biological monitor may be required during a portion or all of the construction activities to ensure impacts to the sensitive biological resources are avoided or minimized to the extent feasible. The specific biological monitoring requirements shall be evaluated on a project-by-project basis. The qualified biological monitor shall be approved by the City on a project-by-project basis based on applicable experience with the sensitive biological resources that may be impacted by the proposed development project activities.

4.3.5.4 Significance of Impacts after Mitigation

Implementation of mitigation measures BIO-1 through BIO-8 would identify potential impacts to sensitive species and appropriate measures to reduce the impacts to below a level of significance. Implementation of mitigation measure BIO-1 would reduce impacts on sensitive and special status species to a less than significant level.

4.3.6 Topic 2: Sensitive Riparian Habitats

Would the project result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?

4.3.6.1 Impact Analysis

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, continued development of nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

As described in Section 4.3.1.2.e above, several riparian resources have been identified within the City. The project has been designed to minimize impacts to riparian and sensitive habitats by primarily focusing future development and redevelopment within the proposed Focus Areas. Figure 4.3-1 presents the locations of the proposed Focus Areas in relation to mapped vegetation communities, some of which qualify as riparian and sensitive habitats. As shown in Figure 4.3-1, there are no mapped vegetation communities within Focus Area 1, limited amounts in Focus Area 2, and some habitat in Focus Area 3. Additionally, the mapped vegetation communities in Focus Area 2 overlap with the Orange County NCCP/HCP Non-Reserve Open Space presented in Figure 4.3-3, and the mapped vegetation communities in Focus Area 3 overlap with the Orange County NCCP Reserve. Therefore, focusing development and redevelopment within areas that consist primarily of developed and/or disturbed land would minimize adverse impacts to riparian and sensitive habitats. However, future development may occur throughout the City as part of the project, including on vacant parcels with riparian and sensitive habitats. These vacant parcels may possess riparian and other sensitive habitats. Future development would be required to demonstrate compliance with the Orange County Central and Coastal NCCP/HCP (PPP BIO-5) and CESA (PPP BIO-6), as applicable. Future projects would be required to comply with mitigation measures BIO-9 and BIO-10, which require jurisdictional delineations to be conducted for projects potentially affecting riparian habitats and all necessary authorizations to be obtained for projects affecting such resources. Furthermore, Goal 2 and Objective COS-2 of the Conservation and Open Space Element Update which seek to maintain compliance with the NCCP/HCP, with supporting policies aimed at continued compliance under this plan, would further support the City's goal of reducing impacts to riparian and sensitive habitats.

4.3.6.2 Significance of Impacts

At a program level of analysis, it cannot be known with certainty that impacts to riparian and sensitive habitats could be fully avoided, which would be considered a potentially significant impact.

4.3.6.3 Mitigation

Buildout of the project has the potential to adversely affect riparian and sensitive habitats. If no riparian and sensitive habitats have a potential to occur within and/or adjacent to the proposed project, the City may approve the proposed project to proceed without further biological resource analyses. If sensitive riparian and sensitive habitats have potential to occur, mitigation measures BIO-9 and BIO-10 below would apply.

BIO-9: Prior to project approval, if a proposed project has the potential to affect riparian and sensitive habitats and/or jurisdictional resources, a qualified biologist conduct a jurisdictional delineation following the methods outlined in the 1987 Corps Wetland Delineation Manual (USACE 1987) and the Regional Supplement to the Corps Wetland Delineation Manual: Arid West Region (USACE 2008) to map the extent of wetlands and non-wetland waters, determine jurisdiction, and assess potential impacts. The results of the delineation shall be presented in a wetland delineation letter report and shall be incorporated into the California Environmental Quality Act document(s) required for approval and permitting of the proposed project.

BIO-10: If the results of mitigation measure BIO-9 above determine that a proposed project would impact riparian and sensitive habitats and/or jurisdictional features, permits and authorizations shall be obtained from the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and/or Regional Water Quality Control Board prior to project approval. The regulatory agency authorization(s) would include specific avoidance, minimization, and mitigation measures for impacts to riparian and sensitive habitats and/or jurisdictional resources, which may include monetary contributions to a mitigation bank or habitat creation, restoration, and/or enhancement.

4.3.6.4 Significance of Impacts after Mitigation

Implementation of mitigation measures BIO-9 and BIO-10 would identify specific avoidance, minimization, and mitigation measures for impacts to riparian and sensitive habitats, which may include monetary contributions to a mitigation bank or habitat creation, restoration, and/or enhancement. Implementation of mitigation measures BIO-9 and BIO-10 would reduce impacts on riparian and sensitive habitats to a level less than significant.

4.3.7 Topic 3: Jurisdictional Wetlands and Waters

Would the project result in substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

4.3.7.1 Impact Analysis

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, continued development of nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

As described in Section 4.3.1.2e above, jurisdictional wetlands and waters have been identified within the City. The project has been designed to minimize impacts to jurisdictional wetlands and waters by primarily focusing future development and redevelopment within the proposed Focus Areas. Figure 4.3-1 presents the locations of the proposed Focus Areas in relation to mapped vegetation communities, some of which qualify as jurisdictional wetlands and waters. As shown in Figure 4.3-1, there are no mapped vegetation communities within Focus Area 1, limited amounts in Focus Area 2, and some habitat in Focus Area 3. Additionally, the mapped vegetation communities in Focus Area 2 overlap with the Orange County NCCP/HCP Non-Reserve Open Space presented in Figure 4.3-3, and the mapped vegetation communities in Focus Area 3 overlap with the Orange County NCCP Reserve. Therefore, focusing development and redevelopment within these areas that consist primarily of developed and/or disturbed land would minimize adverse impacts to jurisdictional wetlands and waters. However, future development may occur throughout the City, including on vacant parcels with jurisdictional wetlands and waters. Future development would be required to demonstrate compliance with Section 404 of the CWA (PPP BIO-1), Section 401 of the CWA (PPP BIO-2), Section 1600 of the California Fish and Game Code (PPP BIO-3), and the Orange County

Central and Coastal NCCP/HCP (PPP BIO-5) as applicable. Future projects would also be required to comply with mitigation measure BIO-9 and BIO-10, which require jurisdictional delineations to be conducted for projects potentially affecting wetlands and all necessary authorizations to be obtained for projects affecting such resources. Furthermore, Goal 5, Objective COS-5 of the Conservation and Open Space Element Update which seeks to protect environmental quality would further the City's goal of reducing impacts to wetlands.

4.3.7.2 Significance of Impacts

At a program level of analysis, it cannot be known with certainty that impacts to jurisdictional wetlands and waters could be fully avoided, which would be considered a potentially significant impact.

4.3.7.3 Mitigation

See mitigation measures BIO-9 and BIO-10 above.

4.3.7.4 Significance of Impacts after Mitigation

Implementation of mitigation measures BIO-9 and BIO-10 would identify specific avoidance, minimization, and mitigation measures for impacts to jurisdictional resources, which may include monetary contributions to a mitigation bank or habitat creation, restoration, and/or enhancement. Implementation of mitigation measures BIO-9 and BIO-10 would reduce impacts on jurisdictional wetlands and waters to a less than significant level.

4.3.8 Topic 4: Wildlife Corridors

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

4.3.8.1 Impact Analysis

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Future development under the project would not be within the NCCP/HCP areas, which have been placed over regional and local wildlife corridors. Much of the City's open space has already been reserved or designated as special linkages, including through the Irvine Open Space Initiative. Future development under the project would be required to demonstrate compliance with the Orange County Central and Coastal NCCP/HCP (PPP BIO-5) and CESA (PPP BIO-6), as applicable, including with respect to wildlife movement. Additionally, Conservation and Open Space Element Goal 2, Objective COS-2 and Goal 5, Objective COS-5 seek to implement the NCCP/HCP and conserve and restore natural resources. These efforts include implementing the NCCP/HCP to ensure long-term ecological sustainability and biodiversity conservation and designing future projects to avoid impacts

to biological resources. Due to the anticipated location of development, combined with existing PPPs, the project would not substantially interfere with the movement of any native resident or migratory fish or wildlife species, or with established native resident migratory wildlife corridors, including linkages identified in the Irvine Open Space Initiative. Compliance with goals, objectives, and policies in the updated Conservation and Open Space Element would also further the City's goals of reducing impacts to migratory wildlife corridors or native wildlife nursery sites.

4.3.8.2 Significance of Impacts

The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, and impacts would be less than significant.

4.3.8.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.3.8.4 Significance of Impacts after Mitigation

Impacts would be less than significant. No mitigation is required.

4.3.9 Topic 5: Local Ordinances

Would the project conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?

4.3.9.1 Impact Analysis

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, continued development of nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Future development would be required to demonstrate compliance with Section 404 of the CWA (PPP BIO-1), Section 401 of the CWA (PPP BIO-2), Section 1600 of the California Fish and Game Code (PPP BIO-3), and the Orange County Central and Coastal NCCP/HCP (PPP BIO-5) and CESA (PPP BIO-6). Furthermore, Conservation and Open Space Element Goal 2, Objective COS-2 and Goal 5, Objective COS-5 seek to conserve and restore natural resources. These efforts include implementing the NCCP/HCP to ensure long-term ecological sustainability and biodiversity conservation and requirement future projects to avoid impacts to biological resources. Therefore, impacts related to conflicts with local policies and ordinances intended to protect biological resources would be less than significant.

4.3.9.2 Significance of Impacts

The project would not conflict with local policies and ordinances intended to protect biological resources, and impacts would be less than significant.

4.3.9.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.3.9.4 Significance of Impacts after Mitigation

Impacts would be less than significant. No mitigation is required.

4.3.10 Topic 6: Habitat Conservation Plan

Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

4.3.10.1 Impact Analysis

a. Orange County NCCP

The City has committed to protect and manage the Irvine Open Space Preserve consistent with the NCCP/HCP. The City and many other local governments and public and private agencies adopted the NCCP/HCP to cover this area. Of the NCCP/HCP acres in the City, 10,587 are designated for the habitat reserve system, and 813 acres are non-reserve lands called special linkages. The special linkages contain biological value that could enhance connectivity between elements of the reserve system.

Future development resulting from implementation of the project would be required to comply with the NCCP/HCP. As part of the project approval process, each future proposed project with the potential to impact biological resources would be required to conduct an initial site assessment to determine if sensitive biological resources could be present within and/or adjacent to the proposed development project (refer to mitigation measure BIO-1). Individual projects would also be assessed for compliance with the NCCP/HCP depending on whether the project site lies inside the NCCP/HCP Reserve System (including the Irvine Open Space Preserve of the Irvine Open Space Initiative) or Special Linkage Areas. If no sensitive biological resources have a potential to occur within and/or adjacent to the proposed project, the City may approve the proposed project to proceed without further biological resource analyses. If sensitive biological resources have potential to occur, future development may have the potential to conflict with the NCCP/HCP.

b. Local Coastal Program

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, continued

development of nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

A small portion of Focus Area 1 is located within the coastal zone of the City's Local Coastal Plan. The majority of this area is developed with industrial and office uses, with the remaining portion of the City's coastal zone located in an area that is regulated by University of California, Irvine and is therefore not covered by the City's Local Coastal Program. Any future development facilitated by the project that would be located within the coastal zone would be required to comply with the Local Coastal Program. Specifically, future projects would be required to file for a consistency determination with the Airport Land Use Commission (ALUC) as specified in Section 4.7 of the Airport Environs Land Use Plans (AELUP). If ALUC determines that a proposed project is inconsistent with the AELUP, ALUC is required to notify the City. The City may modify the project to be consistent with the AELUP and resubmit to ALUC or the City can overrule ALUC by following the procedures in Public Utilities Code Sections 21676 and 21676.5. This procedure would require the City to hold a public hearing on the matter, make specific findings that the proposed overruling is consistent with Public Utilities Code Section 2160, and overrule ALUC by at least two-thirds vote of the applicable governing body (likely the City's Planning Commission and/or City Council).

Furthermore, the project itself requires a Local Coastal Program amendment to ensure consistency between the proposed General Plan, Zoning Ordinance, and Zoning Map amendments. Approval of a Local Coastal Program would ensure consistency with the project and the Local Coastal Program and would therefore serve to further minimize impacts to biological resources.

4.3.10.2 Significance of Impacts

If sensitive biological resources have potential to occur, future development may have the potential to conflict with the NCCP/HCP, which would be considered significant. Conflicts with the LCP would be less than significant and would not require mitigation.

4.3.10.6 Mitigation

See mitigation measures BIO-1 through BIO-10 above regarding consistency with the NCCP/HCP. Conflicts with the LCP would be less than significant and would not require mitigation.

4.3.10.4 Significance of Impacts after Mitigation

Implementation of mitigation measures BIO-1 through BIO-10 would reduce conflicts with the NCCP/HCP to a level less than significant. Conflicts with the LCP would be less than significant and would not require mitigation.

4.3.11 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for biological resources. The study area for the assessment of cumulative impacts related to biological resources is inclusive of the City limits,

including the area covered by the LCP, as well as the Orange County Central and Coastal NCCP/HCP area, which identifies and provides for the regional protection of plants, wildlife, and their habitats, while allowing compatible and appropriate economic activity in the region. The project has focused development and redevelopment within areas that consist primarily of developed and/or disturbed land with limited biological value. Future development would be required to demonstrate compliance with Section 404 of the CWA (PPP BIO-1), Section 401 of the CWA (PPP BIO-2), Section 1600 of the California Fish and Game Code (PPP BIO-3), and the Orange County Central and Coastal NCCP/HCP (PPP BIO-5) and CESA (PPP BIO-6), as well as complete site-specific analysis that would identify the presence of sensitive species and appropriate mitigation would be applied to reduce potential impacts. Therefore, the project would not contribute to a cumulative impact to biological resources. Compliance with goals, objectives, and policies in the updated Conservation and Open Space Element would further the City's goals of reducing cumulative impacts to biological resources.

4.4 Cultural and Tribal Cultural Resources

This section analyzes potentially significant impacts related to cultural and tribal cultural resources that could result from implementation of the project. This analysis relies upon the results of the Paleontological and Cultural Resources Assessment Report for the project (Appendix D).

4.4.1 Existing Conditions

Cultural resources in the city of Irvine (City) include both historical and archaeological elements, providing tangible links to the City's past. Historical sites dating back to post-1542 AD hold significance for their historical, architectural, or cultural value, while archaeological sites reveal traces of human activity predating 1750 AD. The largest concentrations of archaeological sites, primarily reflecting the presence of the Gabrieleno and the Acjachemen (Juaneño), are found in specific regions like Upper Newport Bay and the Santiago and San Joaquin Hills. Hundreds of cultural resources have been identified within or near the City, including some of Orange County's earliest sites, with additional records maintained by the Office of Historic Preservation in Sacramento.

4.4.1.1 Cultural Setting

a. Prehistoric Setting

Table 4.4-1 presents the chronology of cultural change within the City over time. Archaeological data has revealed that from 8,500 to 3,500 years Before Present (BP), settlement within the region consisted of what is known today as Topanga groups of the Encinitas Pattern, which were relatively small and highly mobile populations. These people tended to settle along the coast in wetlands, bays, coastal plains, near-coastal valleys, marine terraces, and mountains. The Topanga toolkit is dominated by manos and metates with projectile points scarce. Beginning in 3,500 BP, the Encinitas Pattern was replaced by the Angeles Pattern, which restricted to the mainland and appears to have been less technologically conservative and more ecologically diverse, with a largely terrestrial focus and greater emphases on hunting and nearshore fishing (see Appendix D).

Table 4.4-1
Chronology of Cultural Change

Pattern	Phase	Dates (BP)	Material Traits	Other Traits
Encinitas	Topanga I	8,500 to 5,500	Abundant manos and metates, many core tools and scrapers, few but large points, charmstones, cogged stones, early discoidals, bone gorge fishhooks, faunal remains rare; Olivella spire/end lopped beads appear	Estuary/lagoon shellfish and sharks/rays common, hunting important, secondary burials under metate cairns (some with long bones only), some extended inhumations, no cremations
	Topanga II	5,000 to 3,500	Abundant but decreasing manos and metates, adoption of mortars and pestles, smaller points, cogged stones, late discoidals, fewer scraper planes and core tools, some stone balls and	Estuary/lagoon shellfish and sharks/rays common, addition of acorns, reburial of long bones only, addition of flexed

Table 4.4-1
Chronology of Cultural Change

Pattern	Phase	Dates (BP)	Material Traits	Other Traits
			charmstones; inhumations common; Olivella Grooved Rectangular beads introduced	inhumations (some beneath metate cairns), cremations rare
Angeles	Angeles I	3,500 to 2,600	Appearance of Elko dart points and an increase in the overall number of projectile points from Encinitas components; beginning of large-scale trade in small steatite artifacts (effigies, pipes, and beads) and Olivella shell beads; appearance of single-piece shell fishhooks and bone harpoon points; Coso obsidian becomes important; appearance of donut stones; appearance of Mytilus beads	apparent population increase; fewer and larger sites along the coast; collector strategy; less overall dependence on shellfish but fishing and terrestrial hunting more important; appearance of flexed and extended inhumations without cairns, cremations uncommon
	Angeles II	2,600 to 1,600	Continuation of basic Angeles I material culture with the addition of mortuary features containing broken tools and fragmented cremated human bone; fishhooks become more common	Shellfish change to mudflat species, more emphasis on fish, birds and mammals, continuation of basic Angeles I settlement and subsistence systems; appearance of a new funerary complex
	Angeles III	1,600 to 1,250	Appearance of bow and arrow technology (e.g., Marymount or Rose Spring points); changes in Olivella beads; asphaltum becomes important; reduction in obsidian use; Obsidian Butte obsidian largely replaces Coso	Larger seasonal villages; flexed primary inhumations but no extended inhumations and an increase in cremations; appearance of obsidian grave goods
	Angeles IV	1,250 to 800	Cottonwood points appear; some imported pottery appears; birdstone effigies at the beginning of the phase and "spike" effigies dropped by the end of the phase; possible appearance of ceramic pipes, Mytilus shell disks	Change in settlement pattern to fewer but larger permanent villages; flexed primary inhumations continue, cremations uncommon
	Angeles V	800 to 450	Trade of steatite artifacts from the southern Channel Islands becomes more intensive and extensive, with the addition or increase in more and larger artifacts, such as vessels and comals; larger and more elaborate effigies; portable mortars and pestles	Strengthening of ties, especially trade, with southern Channel Islands; expansion into the northern Santa Ana Mountains and San Joaquin Hills
	Angeles VI	450 to 150	Addition of Euroamerican material culture (e.g., glass beads and metal tools), locally made pottery, metal needle-drilled Olivella beads	Change of settlement pattern, movement close to missions and ranches; use of domesticated species obtained from Euroamericans; flexed primary inhumations continue; apparent adoption of Chingichngish religion

SOURCE: Appendix D.

b. Ethnography

The City is within the traditional tribal territory of the Gabrieleno with the Acjachemen (Juaneño) located immediately to the south. The traditional tribal territory of the Gabrieleno includes large portions of Los Angeles County, the northern part of Orange County, small sections of Riverside and San Bernardino counties as well as the southern Channel Islands of Santa Barbara, San Clemente, San Nicolas, and Santa Catalina. The traditional tribal territory of the Acjachemen includes northern San Diego County and southern Orange County. Tribal boundaries are fluid and the Acjachemen territory may have extended north to include the City. Background sections for both the Gabrieleno and Acjachemen are provided below.

Gabrieleno

The Gabrieleno are considered to have been one of the wealthiest tribes and to have greatly influenced tribes they traded with. Houses were domed, circular structures thatched with tule or similar materials. The best-known artifacts were made of steatite and were highly prized. Many common everyday items were decorated with inlaid shell or carvings reflecting an elaborately developed artisanship.

The main food zones utilized were marine, woodland, and grassland. Plant foods were, by far, the greatest part of the traditional diet. Acorns were the most important single food source. Villages were located near water sources necessary for the leaching of acorns, which was a daily occurrence. Grass seeds were the next most abundant plant food used along with chia. Seeds were parched, ground, and cooked as mush in various combinations according to taste and availability. Greens and fruits were eaten raw or cooked or sometimes dried for storage. Bulbs, roots, and tubers were dug in the spring and summer and usually eaten fresh. Mushrooms and tree fungus were prized as delicacies. Various teas were made from flowers, fruits, stems, and roots for medicinal cures as well as beverages.

The principal game animals were deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, dove, ducks, and other birds. Most predators were avoided as food, as were tree squirrels and most reptiles. Trout and other fish were caught in the streams, while salmon were caught when available in the larger creeks. Marine foods were extensively utilized. Sea mammals, fish, and crustaceans were hunted and gathered from both the shoreline and the open ocean, using reed and dugout canoes. Shellfish were the most common resource, including abalone, turbans, mussels, clams, scallops, bubble shells, and others.

Juaneño Acjachemen

About 1,300 years ago the Acjachemen (Juaneño), who were hunters and gatherers of the San Luis Rey Cultural Pattern, moved into southern Orange County. The Acjachemen speak a language that is part of the Takic language family. Their traditional tribal territory was situated partly in northern San Diego County and partly in southern Orange County. The boundaries were Las Pulgas Creek (south), Aliso Creek (north), the Pacific Ocean (west) and the Santa Ana Mountains (east). Villages were mostly along San Juan Creek, Trabuco Creek, and San Mateo Creek.

In prehistory, the Acjachemen had a patrilineal society and lived in groups with other relatives. These groups had established claims to places including the sites of their villages and resource areas. Marriages were usually arranged from outside villages establishing a social network of related peoples in the region. There was a well-developed political system including a hereditary chief. Religion was an important aspect of their society. Religious ceremonies included rites of passage at puberty and mourning rituals.

Houses were typically conical in shape and thatched with locally available plant materials. Work areas were often shaded by rectangular brush-covered roofs (ramada). Each village had a ceremonial structure in the center enclosed by a circular fence where all religious activities were performed.

Women are known to have been the primary gatherers of plant foods, but also gathered shellfish and trapped small game animals. Men hunted large game and most small game, fished, and assisted with plant food gathering, especially of acorns. Adults were actively involved in making tools including nets, arrows, bows, traps, food preparation items, pottery and ornaments. Tribal elders had important political and religious responsibilities and were involved in education of younger members.

c. Historic Setting

Spanish Exploration

Juan Cabrillo was the first European to sail along the coast of California in 1542 and was followed in 1602 by Sebastian Vizcaino. The Spanish colonization of what was then known as Alta California began with the 1769 overland expedition led by Gaspar de Portolá, with a crew of 63 men exploring the land between San Diego and Monterey. Between 1769 and 1822, the Spanish had colonized California and established missions, presidios, and pueblos and documented the people and landscape along the way.

Portola and his expedition crossed the area north of Lake Forest in July 1769, naming the perennial creek that empties from the Santa Ana Mountains "aliso". During the Mission period, many of the trees along the creek, including alder, oak, sycamore, and other species were cut down for the construction of ships and structures, charcoal production, and other uses.

Portions of the City lie within the boundaries of Rancho Santiago de Santa Ana, which was given to Jose Antonio Yorba and his nephew Pablo Peralta in 1810 by Governor José Joaquin de Arrillaga on behalf of the Spanish Government. The grant consisted of the lands east of the Santa Ana River to the Santa Ana Mountains (see Appendix D).

Mexican Period

In addition to the land granted for the Rancho Santiago de Santa Ana under the Spanish Government, additional land grants were given by the Mexican government, including Rancho San Joaquin and Rancho Lomas de Santiago. The Rancho San Joaquín land grant was a combination of the Rancho Cienega de las Ranas and the Ranch La Bolsa de San Joaquín. This land grant was issued to José Antonio Andrés Sepúlveda in 1837 and 1842, respectively. Rancho Lomas de Santiago was

granted to Teodosio Yorba by the Mexican Governor Pío Pico in 1846. Teodosio was the son of Jose Antonio Yorba, who was granted Rancho Santiago de Santa Ana (see Appendix D).

American Period

Following the cession of California to the United States after the Mexican-American War, the Treaty of Guadalupe Hidalgo in 1848 ensured that the land grants would be honored. In 1864 Sepúlveda sold his lands to Benjamin and Thomas Flint, Llewellyn Bixby, and James Irvine. In 1876, James Irvine bought out his partners and became the sole owner of the Irvine Ranch, which continued largely a ranching operation for many years. When Irvine died in 1886, James Irvine II took control of the ranch and increased its agricultural production. In 1894, James Irvine II incorporated the land holdings as the Irvine Company.

In 1899, the newly formed San Joaquin School District approached James Irvine II with the intent to build a school for the children of his ranch tenant. In 1911, the school and land upon which it resided was donated by Irvine II to Orange County. By the beginning of the twentieth century, Irvine II set aside 320 acres at the intersection of the Santa Fe Railroad tracks and Central Avenue for the purpose of developing a town for the residence of both his permanent and seasonal workers. In 1914, the Orange County town of Myford was renamed "Irvine." The Irvine Ranch's bean production reached its zenith during the First World War. In 1918, the ranch contained 60,000 acres of lima bean fields which produced 900,000 sacks, which equated to a total value of $6 million. After the First World War, significant changes occurred at the Irvine Ranch in the 1920s. The Irvine Service Station was enlarged to accommodate the area's growing car culture and the town initially planned by Irvine saw an increase in housing for workers. Seeking a site for the Navy's air operations, the Santa Ana Chamber of Commerce chose the Irvine Ranch's lima bean field. This resulted in the establishment of the El Toro Marine Corps Air Station and the Tustin Lighter-Than-Air base (see Appendix D).

Modern Period

As a result of the Second World War, pressure mounted towards the development of urban areas in California. Under the guidance of Myford Plum, Irvine, Cameo Highlands, Irvine Terrace, Harbor View Hills, Cameo Shores, Westcliff Batcrest, and Irvine Cove in Laguna were developed.

In 1960, the Irvine Company gifted 1,000 acres of land to the University of California with a provision for the sale of an additional 500 acres. The establishment of the university on the Irvine Ranch provided a central focus around which the company would create a master plan for Irvine Ranch, centering around both the City and University of California, Irvine. To create this master plan, the Irvine Company hired William Pereira & Associates, who divided the ranch into three sections (north, central, and south). The central section consisted of prime agricultural land, while the northern section consisted of a remote mountainous region, and the southern section consisted of a basin that was considered the top priority of urban development, as it ran from the coast to the alignment of the Interstate 405 (I-405; San Diego) Freeway. Development of each community underwent meticulous planning, as each "village" would include its own churches, shopping centers, and schools. The same attention to detail was utilized in master land-use plan in the development of the Irvine Industrial Complex and the Newport "downtown" Center. Pereira's plan for the university outlined the campus as a large wheel with a park at the center that would include a lake and an amphitheater as "the focus of university life". The University of California, Irvine was dedicated on June 20, 1964.

In 1965, much of the agricultural land on the ranch was being converted into housing tracts. Multiple electronic firms, aerospace companies, and research and development companies made their way to the Irvine Industrial Complex. In 1971, the City of Irvine was incorporated. The 1973 Irvine General Plan emphasized an increase in cycling, hiking, and equestrian trails, reduced car dependency, and an increase in access to recreational facilities (see Appendix D).

4.4.1.2 Existing Historic and Prehistoric Resources

A record search for archaeological and historical resources was completed on September 24 and 25, 2018 at the South Central Coastal Information Center (SCCIC) of the California Historical Resource Inventory System, located on the campus of the California State University, Fullerton. The record search covered the entire area within the boundaries of the City. The search radius included El Toro, San Juan Capistrano, Laguna Beach, Tustin, Orange, and Black Star Canyon 7.5-minute topographic quadrangle maps. The results of the record search indicated that 647 prior studies were located within the City. The records search also determined 379 previously recorded cultural resources are located within the City boundaries, which are summarized by resource type in Table 4.4-2 below.

In addition to the SCCIC records search, a variety of sources were consulted in October 2018[1] to obtain information regarding the cultural context of the City. Sources included the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR) which includes the California Historical Resources Inventory (CHRI),[2] California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). The Bureau of Land Management (BLM) General Land Office records were also searched.

Table 4.4-2
Previously Recorded Cultural Resources

Resource Type	Quantity
Prehistoric Site	216
Prehistoric Isolate	85
Multi-Component Site	9
Multi-Component Isolate	1
Unknown Isolate	1
Historic Resource	62
Historic Site	2
Historic Isolate	3
TOTAL	**379**

[1] Most developed suburban areas have been previously surveyed. However, certain areas with significant open space may remain unassessed, particularly if there hasn't been any ground disturbance. Despite the timing of the 2018 record searches and consultations, results and efforts remain relevant given the development trends that have occurred up to this point and the absence of ground disturbance in open space areas.

[2] The CHRI has been replaced by the California Built Environment Resource Database.

a. Historic Resources

Figure 4.4-1 presents the locations of historic resources within the City, and Table 4.4-3 provides a summary of these historic resources based on the type of historic designation.[3] Historic resources listed in Table 4.4-3 include four buildings listed on the NRHP and the CRHR, eight properties listed on the CHRI, one area with a CHL plaque, and three areas with a CPHI plaque. The Orange County Parks lists the Irvine Ranch Historic Park as a historic resource, and the City lists 19 historically important properties. Historic resources within the City include current and former locations of historic buildings, historical archaeological sites (often near historic use areas), and the location of extant historic homes more than 45 years old. Old Town Irvine has the highest number of historic buildings. Other resources north of I-405 include the railroad, a eucalyptus windbreak, Valencia Growers Packing House, and the Irvine Agricultural Headquarters Complex. Historic resources south of I-405 include the Rancho San Joaquin Adobe, the San Joaquin Gun Club, Phineas Banning House, Bommer Canyon Cattle Camp, and Barton's Mound. Only those resources that have been determined to be significant under the California Environmental Quality Act (CEQA) are presented in Figure 4.4-1.

b. Archaeological Resources

The cultural resources assessment completed for the project mapped all known prehistoric sites to help establish sensitivity rankings. However, the locations of all sites must remain confidential. Archaeological sites are most abundant in the San Joaquin Marsh area and San Joaquin Hills, both of which are located south of I-405. Prehistoric sites are also abundant in areas that had been permanent water sources in prehistoric times, such as creeks and springs, northeast of Irvine Boulevard. Only 10 known sites are present on the plain between I-405 and Irvine Boulevard. Based on this distribution of prehistoric sites, areas south of I-405 and north of Irvine Boulevard have been designated as highly sensitive, and the plain in between I-405 and Irvine Boulevard has been designated as less sensitive (Figure 4.4-2). Only two historical archaeological sites have been recorded in City. Both are in the eastern portion of the City and consist of historic domestic refuse. Due to the low number of sites, no sensitivity map was created.

[3] It should be noted that some sites have received multiple designations, and therefore are listed multiple times in Table 4.4-3.

Map Source: City of Irvine

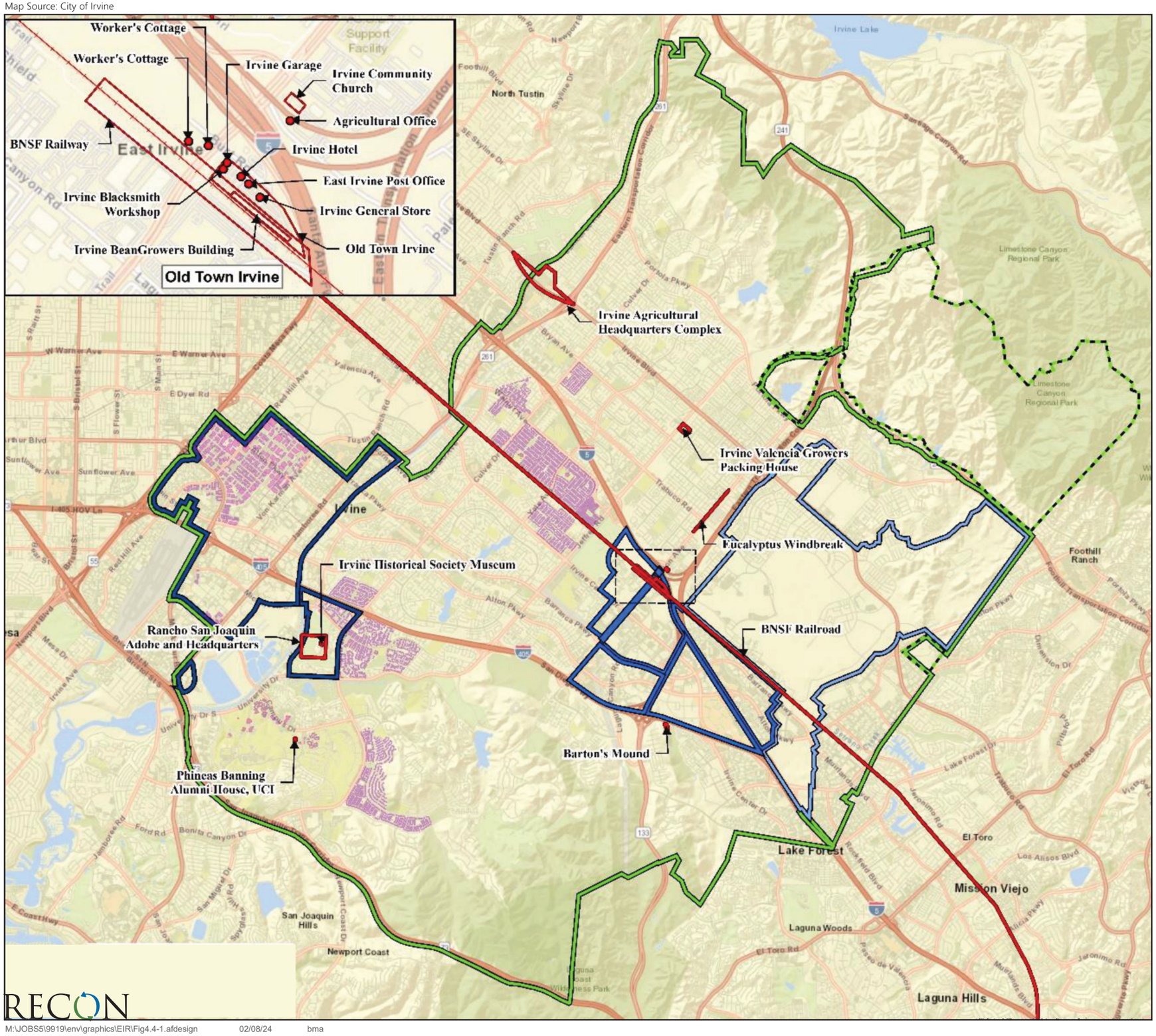

FIGURE 4.4-1
Historic Resources

RECON

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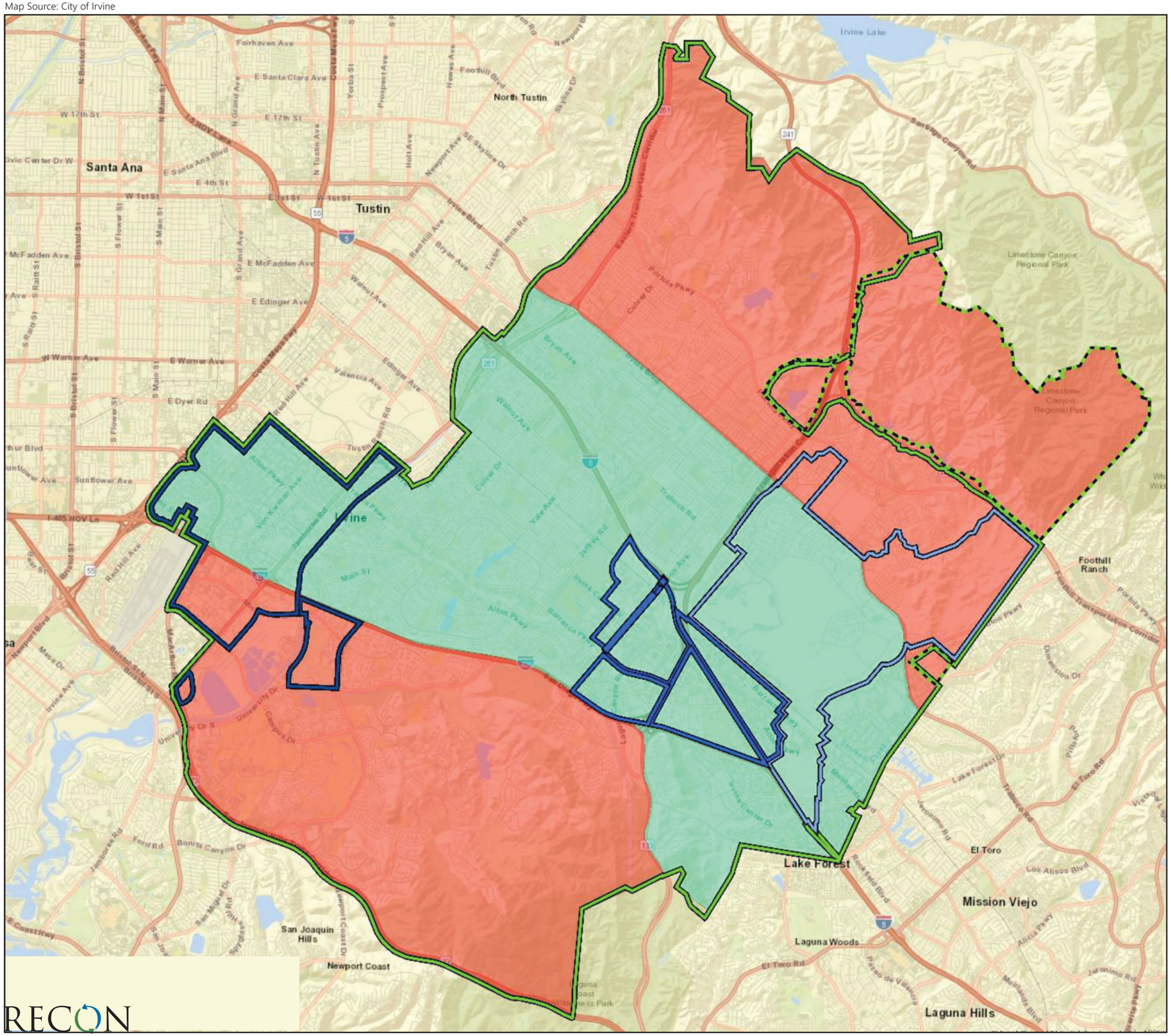
Map Source: City of Irvine



RECON

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FIGURE 4.4-2
Prehistoric Resources

Table 4.4-3 Historic Resources	
Source	Results
Historic USGS Topographic Maps	Positive
Historic U.S. Department of Agriculture Aerial Photographs	Positive
National Register of Historic Places (NRHP)	Positive: 1. NRL#:77000319, Frances Packing House, Listed 8/2/1977. 2. NRL#: 86000068, Irvine Bean and Growers Association Building, Listed 1/13/1986 3. NRL#: 86000452, Irvine Blacksmith Shop, 3/20/1986 4. NRL#: 93000300, Christ College Site, 4/16/1993
California Register of Historic Resources (CRHR)	Positive: 1. Frances Packing House 2. Irvine Bean and Growers Association Building 3. Irvine Blacksmith Shop 4. Christ College Site
California Historical Resource Inventory (CHRI)	Positive: 1. Tustin USAR Center, 1963 2. Christ College Site 3. Val Verde Sportsmen's Club, 1924 4. The Echberria Home, 1925 5. Buffalo Ranch/Urnabus Square, 1962 6. Agricultural Shed, 1930 7. Transi Housing; Irvine Hotel, 1913 8. South Coast Gun Club, 1945
California Historical Landmarks (CHL)	Positive: 1. Plaque #: 1004 Old Town Irvine, Listed 11/8/1991
California Point of Historical Interest (CPHI)	Positive: 1. Plaque #: P753, Irvine Bean and Grain Growers Building, Listed 8/8/1991 2. Plaque #: P630, Irvine Historical Society Museum/ Rancho San Joaquin Headquarters, Listed 5/31/1984 3. Plaque #: P485, Irvine Park, Listed 9/1/1976
County of Orange	Positive: OC Parks 1. Irvine Ranch Historic Park
Irvine Historic Resources List	1. Lambert Reservoir 2. First Irvine Office/ Ranch Headquarters 3. Irvine Family Home Site and Gardens 4. C.F. Kraus Residence 5. Irvine Employee Housing 6. Irvine Community Center/ Public School 7. Irvine Bean Warehouse 8. East Irvine Garage and Service Station 9. A.T.S.F. Station 10. East Irvine Post Office/ General Store/ Blacksmith Shop 11. Dirigible Hangars "Lighter Than Air" Base

Table 4.4-3 Historic Resources	
Source	Results
	12. Live Oaks-Laguna Canyon Road 13. Site of Michelson Vacuum Tube (Speed of Light Experiments) 14. First Home in University Park 15. French Hill-AKA, Turtle Rock 16. Martin Airport (original site of Orange County Airport) 17. San Joaquin Marsh/Peat Bogs 18. Bommer Canyon Cattle Camp 19. Urbanus Square (Old Buffalo Ranch).
SOURCE: Appendix D.	

4.4.2 Applicable Regulatory Requirements

4.4.2.1 Federal

a. National Historic Preservation Act of 1966

The National Historic Preservation Act of 1966 established the NRHP as the official federal list of cultural resources that have been nominated by state offices for their historical significance at the local, state, or national level. The NRHP, which is administered by the National Park Service, is "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." Listing in the National Register assists in preservation of historic properties through the following actions: recognition that a property is of significance to the nation, the state, or the community; consideration in planning for federal or federally assisted projects; eligibility for federal tax benefits; consideration in the decision to issue a federal permit; and qualification for federal assistance for historic preservation grants, when funds are available.

Properties may qualify for NRHP listing if they qualify under the following criteria:

Criterion A: Associated with events that have made a significant contribution to the broad patterns of history;

Criterion B: Associated with the lives of persons significant in the past;

Criterion C: Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values, represent a significant and distinguishable entity whose components may lack individual distinction; or

Criterion D: Have yielded, or may be likely to yield, information important in prehistory or history.

Structures and features must usually be at least 50 years old to be considered for listing on the NRHP, barring exceptional circumstances. According to the NRHP guidelines, a resource must retain its integrity, or the "ability to convey its significance." The seven aspects of integrity are location, design, setting, materials, workmanship, feeling, and association.

b. Federal Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA) is a federal law that was established in 1990. NAGPRA provides a process for museums and federal agencies to return certain Native American cultural items – human remains, funerary objects, sacred objects, or objects of cultural patrimony – to lineal descendants, and culturally affiliated Indian tribes and Native Hawaiian organizations. NAGPRA includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional and inadvertent discovery of Native American cultural items on federal and tribal lands, and penalties for noncompliance and illegal trafficking in these items. Implementation of the project would be conducted in compliance with NAGPRA. On March 15, 2010, the Department of the Interior issued a final rule on 43 Code of Federal Regulations (CFR) Part 10, of the NAGPRA Regulations – Disposition of Culturally Unidentifiable Human Remains. The final rule implements NAGPRA by adding procedures for the disposition of culturally unidentifiable Native American human remains in the possession or control of museums or federal agencies. The rule also amends sections related to purpose and applicability of the regulations, definitions, inventories of human remains and related funerary objects, civil penalties, and limitations and remedies. The rule became effective on May 14, 2010.

Federal curation regulations are also provided in 36 CFR 79, which apply to collections that are excavated or removed under the authority of the Antiquities Act (16 United States Code [USC] 431-433), the Reservoir Salvage Act (16 USC 469-469c), Section 110 of the National Historic Preservation Act (NHPA) (16 USC 470h-2), or the Archaeological Resources Protection Act (16 USC 470aa-mm). Such collections generally include those that are the result of a prehistoric or historic resources survey, excavation or other study conducted in connection with a federal action, assistance, license or permit.

4.4.2.2 State

a. CEQA Guidelines and California Register of Historical Resources

The California Code of Regulations (CCR), Title 14, Chapter 3, Section 15064.5 (the State CEQA Guidelines) establishes the procedure for determining the significance of impacts to archeological and historical resources, as well as classifying the type of resource. Cultural resources are aspects of the environment that require identification and assessment for potential significance. The evaluation of cultural resources under CEQA is based upon the definitions of resources provided in State CEQA Guidelines Section 15064.5, as follows:

- A resource listed in, or determined to be eligible by, the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4850 et seq.).

- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code (PRC), or identified as significant in a historical resource survey pursuant to the requirements of section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) including the following:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. Has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed in, or determined to be eligible for listing in, the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the PRC), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

The California Register may also include properties listed in local registers of historic properties. A "local register of historic resources" is broadly defined in Section 5020.1(k) as "a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution." Local registers of historic properties come in two forms: (1) surveys of historic resources conducted by a local agency in accordance with Office of Historic Preservation procedures and standards, adopted by the local agency and maintained as current and (2) landmarks designated under local ordinances or resolutions (PRC Sections 5024.1, 21804.1, and 15064.5). The minimum age criterion for the California Register is 50 years. Properties less than 50 years old may be eligible for listing on the California Register, if "it can be demonstrated that sufficient time has passed to understand its historical importance" [Chapter 11, Title 14, Section 4842(d)(2)].

A tribal cultural resource may be considered significant if it is included in a local or state register of historical resources or determined by the Lead Agency to be significant pursuant to criteria set forth

in PRC Section 5024.1; is a geographically defined cultural landscape that meets one or more of these criteria; or is a historical resource described in PRC Section 21084.1 or a unique archaeological resource described in PRC Section 21083.2, or a non-unique archaeological resource if it conforms with the above criteria.

b. California Health and Safety Code Sections 7050.5, 7051, and 7054

These sections collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures. Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has determined the origin and disposition pursuant to PRC Section 5097 et seq. described in Section 4.4.2.2.c below. The County Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric (Native American), the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and non-destructive analysis of human remains and items associated with Native American burials.

c. Native American Historic Cultural and Sanctified Cemetery Sites (PRC Section 5097 et seq.)

State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to a year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR. In 2006, the law was amended to revise the process for the discovery of Native American remains during land development. The revisions encourage culturally sensitive treatment of Native American remains, and to require meaningful discussions and agreements concerning treatment of the remains at the earliest possible time. The intent is to foster the preservation and avoidance of human remains during development. The changes in the law allow additional time to notify, consult, and confer with the MLD/Native American representatives on any given project. In addition, the new language provides more protection for re-interment sites.

Specifically, PRC Section 5097.9 states that no public agency, and no private party using or occupying public property or operating on public property, shall interfere with the free expression or exercise of Native American religion, nor shall any such agency cause severe or irreparable damage to any Native American Sanctified Cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require.

d. Assembly Bill 52

California Assembly Bill (AB) 52 specifies that a project that causes a substantial adverse change in the significance of a tribal cultural resources may have a significant effect on the environment. AB 52 requires that a lead agency consult with California Native American tribes that are traditionally and culturally affiliated with geographic areas and that request notification. AB 52 applies to projects that have a notice of preparation or a notice of negative declaration or mitigated negative declaration on or after July 1, 2015. This bill also required the separate consideration of tribal cultural resources in the CEQA thresholds.

AB 52 Consultation Process

1. Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to California Native American tribes that are traditionally and culturally affiliated with the geographic area of the proposed project and have requested to the lead agency, in writing, to be informed of projects.

2. Such California Native American tribes have 30 days of receipt of formal notification to request consultation. Prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, the lead agency must begin consultation with the tribe who requested consultation.

Any project within the City that requires a notice of preparation, mitigated negative declaration, or negative declaration requires AB 52 consultation.

e. Senate Bill 18

California Senate Bill (SB) 18 helps tribes and jurisdictions define resources and sacred areas and incorporate protection of these places into the General Plan process. It is the first law in the nation to mandate tribal consultation at the local level. SB 18 consultation applies to the adoption and amendment of general plans proposed on or after March 1, 2005. SB 18 consultation is a "government to government" interaction between tribal representatives and representatives of the local jurisdiction.

SB 18 Consultation Process

1. Once a local government initiates a proposal to adopt or amend a general plan, the local government must send a written request to the Native American Heritage Commission asking for a list of tribes to consult.

2. Requests should clearly state that the local government is seeking information about tribes that are on the "SB 18 Tribal Consultation List."

3. The Native American Heritage Commission is mandated to provide local governments with a written contact list of tribes in the local government's jurisdiction in 30 days.

Since most of the development in the City is within an existing Planning Area, there would be few development proposals that would require SB 18 consultation. However, a general plan amendment triggers SB 18 consultation.

4.4.2.3 Local Regulations

a. Existing General Plan (2000)

The Cultural Resources Element of the existing General Plan includes goals and policies that would serve to preserve historical resources within the City. The goal is to facilitate the proper disposition of cultural resources, while fostering an increased understanding and appreciation for the community's heritage and region's history. The Cultural Resources Element's two main objectives are outlined below:

Cultural Resources Element

Objective E:1: Historical, Archaeological, and Paleontological Surveys: Identify and obtain information on the existence and significance of historical, archaeological, and paleontological sites and encourage land use planning which incorporates this information.

Objective E-2: Hazard Occurrence: Evaluate surveyed sites for their present and potential cultural, educational, recreational, and scientific value to the community and the region, and determine their proper disposition prior to the approval of any project which could adversely affect them.

b. Municipal Code

The Municipal Code contains the following policies relating to cultural resources:

Title 3 (Community Services), Division 4 (Parks), Chapter 1 (In General).

Section 3-4-132 (Protection of Natural, Cultural, Structural and Archaeological Resources) of Chapter 1 prohibits any person from possessing, destroying, injuring, defacing, removing, digging or disturbing from its natural state any of the following: plants, wildlife, artifacts, minerals, landscape structures, improvements, wood, and natural products.

c. Zoning Ordinance

Chapter 9-10 (Planning Area 10 (Walnut))

Section 9-10-7 (Special development standards) of Chapter 9-10 (Planning Area 10 (Walnut)) indicates that before obtaining grading permits for park or open space development proposals, the City's Historical, Archaeological, and Paleontological Committee evaluates them to protect archaeological sites. The Director of Community Development verifies developer notification of qualified archaeologists and paleontologists, who must oversee grading activities. These experts attend pre-grade meetings to discuss the importance of avoiding preserved areas and ensuring compliance.

Any additional sites discovered during grading must adhere to the City's historical, archaeological, and paleontological regulations.

d. Commission Resolution No. 09.2968

Standard conditions are adopted by Planning Commission Resolution No. 09-2968 that assist staff in applying standardized wording for frequently used conditions of approval to discretionary and subdivision applications. Standard conditions are applied on a case-by-case basis depending upon the specifics of the application. Companion conditions are cross-referenced and are required to be used together.

Standard Condition 2.5 (Archaeologist/Paleontologist)

Prior to the issuance of the first preliminary or precise grading permit for a project that is located on land that includes potentially significant archaeological and/or paleontological sites, and for any subsequent permit involving excavation to increased depth, the applicant shall provide letters from an archaeologist and a paleontologist. The letters shall state that the applicant has retained these individuals, and that the consultant(s) will be on call during all grading and other significant ground disturbing activities. Determination of the need for these consultants shall be based on the environmental analysis for the project. These consultants shall be selected from the roll of qualified archaeologists and paleontologists maintained by the County of Orange (OC Public Works/OC Planning). The archaeologist and paleontologist shall meet with Community Development staff, and shall submit written recommendations specifying procedures for cultural/scientific resource surveillance. These recommendations shall be reviewed and approved by the Director of Community Development prior to issuance of the grading permit and prior to any surface disturbance on the project site. Should any cultural/scientific resources be discovered during grading, no further grading shall occur in the area of the discovery until the Director of Community Development is satisfied that adequate provisions are in place to protect these resources. This condition and the approved recommendations shall be incorporated on the cover sheet of the grading plan under the general heading: "Conditions of Approval."

e. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the project and will help to reduce and avoid potential impacts related to cultural and tribal cultural resources:

- PPP CUL-1: Compliance with the NHPA
- PPP CUL-2: Compliance with CEQA
- PPP CUL-3: Compliance with AB-52/SB-18
- PPP CUL-4: Compliance with Municipal Code Sections 3-4-132 (Protection of Natural, Cultural, Structural and Archaeological Resources) and 9-10-7 (special development standards)
- PPP CUL-5: Compliance with Standard Condition 2.5 (construction monitoring)

- PPP CUL-6: Compliance with California Health and Safety Code Sections 7050.5, 7051, and 7054
- PPP CUL-7: Compliance with Native American Historic Cultural and Sanctified Cemetery Sites (PRC Section 5097 et seq.)

Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed Goals, Objectives, Policies, and Implementation Actions are applicable to the analysis of cultural and tribal cultural resources and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Conservation and Open Space Element

Goal 4: Use and maintain societal resources, including, but not limited to, archaeological, historical, and paleontological resources, as part of the City's land use pattern.

Objective COS-4: To effectively utilize and preserve societal resources, encompassing archaeological, historical, and paleontological assets, within the City's land use framework, ensuring their integration and maintenance in alignment with conservation and open space goals.

- Policy (a): Continue to coordinate General Plan level resource information to determine the level and type of resource(s) potentially impacted by proposed development.
- Policy (b): Consider land that contains significant resource(s) for an open space use.
- Policy (c): Promote public awareness and appreciation of cultural resources by participating in educational programs and by helping to display artifacts that illuminate past cultures and by encouraging private development to include historic and archaeological displays where feasible and appropriate.

4.4.3 Significance Determination Thresholds

The City has adopted Appendix G of the State CEQA Guidelines as the significance thresholds for cultural resource impacts. A significant impact related to cultural resources would occur if the project would:

1) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; or
3) Disturb any human remains, including those interred outside of dedicated cemeteries.

Additionally, a significant impact related to tribal cultural resources would occur if the project would:

4) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically

defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k), or

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American.

4.4.4 Methodology

A cultural resources assessment was prepared for the project to review and summarize available information regarding known archaeological and historical resources within the City (see Appendix D). Preparation of the report included conducting a records search to identify all previously recorded cultural resources (prehistoric and historic archaeological sites, historic buildings, structures, objects, or districts) within the City. All cultural resources, as well as cultural resource surveys, performed within the City boundaries were reviewed. This existing data was used to develop a cultural resources sensitivity map that was compared to the focus areas to determine the proximity of existing historic resources.

4.4.5 Topic 1: Historic Resources

Would the project cause a substantial adverse change in the significance of a historic-era resource pursuant to CEQA Section 15064.5?

4.4.5.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, continued development of nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

As shown in Figure 4.4-1 above, all focus areas have historical resources located within their boundaries. Focus Area 2 has the most resources, due to the presence of Old Town Irvine within its boundary, and Focus Area 1 includes concentrated areas of buildings 45 years or older.[4] Although there are no site-specific plans that would affect an identified historic resource, future developments, both within the focus areas and outside of those areas, may have the potential to affect a historic resource at the project level. As required by mitigation measure CUL-1, any project proposing to

[4] While the NRHP and California Register indicate that a building must be 50 years or older to be listed under their designation, overall, structures 45 years or older are eligible to be considered historic resources because there are more ways to be considered historic than just those two listings.

renovate, alter, or demolish intact extant building(s) more than 45 years old or otherwise qualifying as a historic structure or site shall provide a historic resource technical study evaluating the significance and data potential of the resource. If significance criteria are met, detailed mitigation recommendations are required as part of the technical study, which must be implemented to reduce impacts on the historical resource(s) to a less than significant level. All work shall be performed by a qualified architectural historian meeting Secretary of the Interior Standards. Future development and redevelopment would also be required to adhere to the PPPs listed above, where applicable, which provide guidance for the avoidance of potential impacts to historic resources. Additionally, the City's updated Conservation and Open Space Element includes Goal 4, which aims to maintain historical resources as part of the City's land use pattern. Compliance with this goal would further support the City's goal of considering and preserving historic resources. Nonetheless, the potential to have a significant impact on historic resources remains for future site-specific development to impact historic resources and mitigation would be required.

4.4.5.2 Significance of Impacts

At a program level of analysis, it cannot be known with certainty that impacts to historic resources could be fully avoided, which would be considered a potentially significant impact requiring implementation of mitigation measure CUL-1.

4.4.5.3 Mitigation

CUL-1: The City of Irvine Director of Community Development, or designee, shall require applicants for future proposed projects proposing to renovate, alter, or demolish intact extant building(s) more than 45 years old or otherwise qualifying as a historical resource under CEQA Guidelines Section 15064.5 to provide a historic resource technical study evaluating the significance and data potential of the resource. If significance criteria are met, detailed mitigation recommendations are required as part of the technical study, which must be implemented to reduce impacts on the historical resource(s) to a less than significant level. All work shall be performed by a qualified architectural historian meeting Secretary of the Interior Standards.

4.4.5.4 Significance of Impacts after Mitigation

Implementation of the mitigation measure CUL-1 described above would potentially reduce impacts on historic resources to a level less than significant. However, as no specific development projects have been identified at this time, it is not possible to ensure that every future project could fully mitigate potentially significant impacts. Therefore, impacts to historic resources would remain significant and unavoidable at this program level of review.

4.4.6 Topic 2: Archaeological Resources

Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Section 15064.5?

4.4.6.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, continued development of nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Future development would primarily be in urbanized areas that have previously been disturbed, and therefore are unlikely to possess native soil with buried prehistoric resources. Additionally, future development under the project would be required to adhere to Section 3-4-132 of the City's Municipal Code, which prohibits the destruction of cultural resources. Similarly, Standard Condition 2.5 requires an archaeological monitoring report to be prepared prior to grading permit issuance for projects that are located on land that includes potentially significant archeological resources. Nonetheless, construction of future development would have the potential to unearth unknown cultural resources, including religious or sacred uses, particularly within areas that have been categorized as high sensitivity. As shown in in Figure 4.4-2 above, the portion of Focus Area 1 south of I-405 and the northeastern portion of Focus Area 3 located north of Irvine Boulevard have been designated as having high sensitivity for prehistoric resources. Additionally, land south and west of Focus Areas 1 and 2 and land north and east of Focus Area 3 are also classified as highly sensitive. Additionally, the City's updated Conservation and Open Space Element includes Goal 4, which aims to maintain archaeological resources as part of the City's land use pattern. Compliance with this goal would further support the City's goal of considering and preserving archaeological resources. Nonetheless, future development within areas with high sensitivity would have the potential to disturb native soils, and therefore may impact cultural resources. Mitigation measure CUL-2, which requires a cultural resources assessment and/or full-time monitoring for projects proposing ground disturbing activities, would be required to minimize potential impacts to archaeological resources.

4.4.6.2 Significance of Impacts

At a program level of analysis, it cannot be known with certainty that impacts to cultural resources could be fully avoided, which would be considered a potentially significant impact.

4.4.6.3 Mitigation

CUL-2: Prior to project approval or the issuance of grading permits (whichever is applicable and comes first), the City of Irvine Director of Community Development, or designee, acting in a similar capacity shall require applicants for future proposed ground disturbing projects to either (1) provide a technical cultural resources assessment consisting of a record search, survey, background context and project specific recommendations performed by a qualified archaeologist meeting Secretary of the Interior Standards and certified by the County of Orange or (2) agree to full-time monitoring by an archaeologist and a designated representative from the tribe/ group(s) who is culturally linked to the site. If resources are known or reasonably anticipated, the applicant shall be required to provide and follow a detailed mitigation plan which shall require monitoring during grading and other earthmoving activities in undisturbed sediments. The plan will provide a treatment plan for

potential resources that includes data to be collected, requires professional identification, other special studies as appropriate, and requires curation at a repository for artifacts meeting significance criteria. A comprehensive final mitigation compliance report including a catalog of specimens with museum numbers and an appendix containing a letter from the museum stating that they are in possession of the materials shall be required and shall be submitted to the City.

4.4.6.4 Significance of Impacts after Mitigation

Implementation of mitigation measure CUL-2 would reduce impacts on cultural resources to a less than significant level.

4.4.7 Topic 3: Human Remains

Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

4.4.7.1 Impact Analysis

There are no known burial sites or cemeteries within the focus areas or any other locations within the City. However, future development associated with the project could disturb native soils and therefore could have the potential to encounter human remains, especially within areas that have been categorized as having a high sensitivity for cultural resources. Therefore, although considered unlikely, the project would have the potential to impact human remains. All development in the City must comply with all applicable laws related to the discovery of human remains, including but not limited to Health and Safety Code Section 7050.5 (PPP: CUL-6) and Public Safety Code Section 5097.98 (PPP: CUL-7). Health and Safety Code Section 7050.5 protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures. Similarly, Public Safety Code Section 5097.98 establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains.

4.4.7.2 Significance of Impacts

At a program level of analysis, it cannot be known with certainty that impacts to human remains could be fully avoided, which would be considered a potentially significant impact. Compliance with Health and Safety Code Section 7050.5 (PPP: CUL-6) and Public Safety Code Section 5097.98 (PPP: CUL-7) would ensure that inadvertent discovery of human remains would be handled properly. Therefore, the project would not disturb any human remains, including those interred outside of dedicated cemeteries, and impacts would be less than significant.

4.4.7.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.4.7.4 Significance of Impacts after Mitigation

Impacts would be less than significant. No mitigation is required.

4.4.8 Topic 4: Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, features, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i) Listed or eligible for listing in the CRHR, or in a local register or
ii) *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision c of PRC Section 5024.1?*

4.4.8.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, continued development of nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

While much of the project areas have been developed, there is a potential for encountering buried resources associated within the cultural territory that was utilized for over thousands of years by indigenous persons. The potential for intact tribal cultural deposits at depth is probable at many locations where undocumented fill or alluvial deposition may mask buried resources, or in proximity to known recorded archaeological resources, which can also be tribal cultural resources as defined in CEQA (PRC Section 21074).

To determine the potential for tribal cultural resources to be impacted because of project implementation, Native American tribes were engaged. Consistent with the requirements of AB 52, the City sent notification letters to 26 Native America tribes that are traditionally and culturally affiliated with the geographic scope of the City on June 22, 2022, and again on August 8, 2023. The City received six responses to the notification letter dated June 22, 2022, and three responses to the letter dated August 8, 2023.

As described in Section 4.4.6.1 above, construction of future development associated with the project would have the potential to unearth unknown cultural resources, including religious or sacred uses, particularly within areas that have been categorized as high sensitivity. Additionally, where required under AB 52, future site-specific development under the project would be subject to further consultation, which may identify unknown tribal cultural resources that have not been formally

recorded during the consultation for the project. Furthermore, grading or excavation within native soils could also expose unknown buried tribal cultural resources and features, including sacred sites. Additionally, the City's updated Conservation and Open Space Element includes Goal 4, which aims to maintain cultural resources as part of the City's land use pattern. Compliance with this goal would further support the City's goal of considering and preserving cultural resources. Future projects would also be required to comply with mitigation measure CUL-2, which require site-specific evaluations for culturally significant resources and/or monitoring of ground-disturbing activities.

4.4.8.2 Significance of Impacts

At a program level of analysis, it cannot be known with certainty that impacts to tribal cultural resources could be fully avoided, which would be considered potentially significant.

4.4.8.3 Mitigation

Implementation of the regulations described above and mitigation measure CUL-2 would reduce impacts on tribal cultural resources to a less than significant level.

4.4.8.4 Significance of Impacts after Mitigation

Implementation of the regulations described above and mitigation measure CUL-2 would reduce impacts on tribal cultural resources to a level less than significant.

4.4.9 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for cultural resources. The study area for the assessment of cumulative impacts related to cultural and tribal cultural resources is defined as the City. However, implementation of mitigation measure CUL-2 would reduce impacts on cultural resources to a level less than significant. Compliance with Health and Safety Code Section 7050.5 (PPP: CUL-6) and Public Safety Code Section 5097.98 (PPP: CUL-7) would ensure that inadvertent discovery of human remains would be handled properly. Therefore, the project would not disturb any human remains, including those interred outside of dedicated cemeteries. Similarly, implementation of mitigation measure CUL-2, along with AB 52 consultation early during the development review process when applicable, would reduce impacts on tribal cultural resources to a level less than significant. Additionally, the City's updated Conservation and Open Space Element includes Goal 4, which aims to maintain historical resources as part of the City's land use pattern. Compliance with this goal would further support the City's goal of considering and preserving historic, archaeological, cultural and tribal cultural resources. The project would implement mitigation measure CUL-1, which would potentially reduce impacts on historic resources to a level less than significant. However, as no specific development projects have been identified at this time, it is not possible to ensure that every future project could fully mitigate potentially significant impacts on historic resources. Therefore, impacts to historic resources would remain significant and unavoidable. Therefore impacts on historic resources would be cumulatively considerable.

4.5 Geology/Soils

This section analyzes potentially significant impacts related to geology and soils that could result from implementation of the project. This analysis relies upon the results of the Paleontological and Cultural Resources Assessment Report for the project (Appendix D).

4.5.1 Existing Conditions

The city of Irvine (City) is located within the northern extent of the California Geomorphic Province known as the Peninsular Ranges, which extends from Mount San Jacinto in the north, through the tip of Baja, Mexico in the south. Subparallel to these ranges on the east is the San Andreas Fault Zone. The northwestwards motion of the Pacific Plate has created these ranges and their corresponding valleys (see Appendix D).

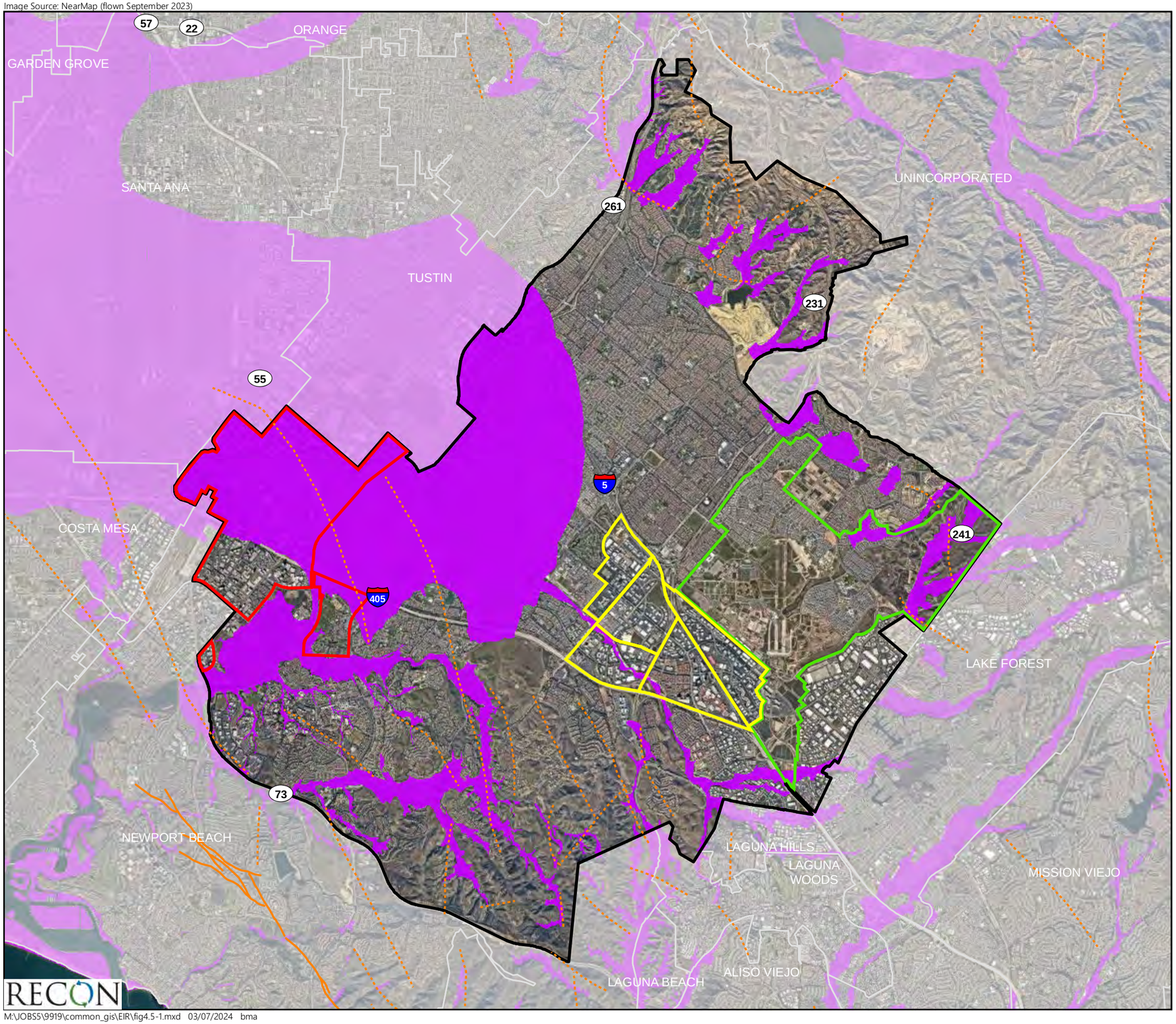
The City has a complicated paleoenvironmental history that began during the Mesozoic Era (the "Age of Dinosaurs"), about 93 million years ago. The past 93 million years ago has seen the City transition from deep water marine in the Late Cretaceous, to coastal lowlands during the Paleocene to Oligocene, to shallow marine during the early Miocene, to deep marine during the early to early-late Miocene, back to shallow marine in the latest Miocene through the Pliocene, and finally to increasingly arid terrestrial deposits from the Pleistocene to the Holocene. In addition, younger sediments have been washed into the ocean by action of streams.

4.5.1.1 Surface Rupture

A seismic event, or earthquake, is the movement of the earth's crust along a fault. The impact of a seismic event on any given location depends on two factors: geologic setting and geologic conditions. Geologic setting refers to an area's proximity to active earthquake faults, which are fractures in the earth's crust forming a boundary between rock masses that have shifted. For planning purposes, an active fault is usually defined as a fault that shows surface movement within the last 13,000 years.

The City and its sphere of influence are affected by both local and regional active faults. Figure 4.5-1 presents the City's location in relation to active faults. According to the U.S. Geological Survey and California Geological Survey, there are several regional faults within Alquist-Priolo Special Study Zones near the City that could result in seismic hazards should an earthquake occur along one of them, including Newport-Inglewood-Rose Canyon fault zone (approximately 1.5 miles west of Irvine), Pelican Hill fault (approximately 1.5 miles west of Irvine), El Modena fault (approximately 5 miles north of Irvine) and Peralta Hills fault (approximately 5 miles north of Irvine). In addition, numerous faults have been identified within the City; however, they are not considered active (shown movement at the surface in the past 13,000 years) and therefore, do not require delineation within a special study zone. Regardless, these faults should be accounted for in future development decisions.

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3
Liquefaction Hazard Zone
Faults

0 Miles 1.5

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FIGURE 4.5-1
Seismic Hazards

The San Joaquin Hills blind thrust fault is the only known fault that runs through Irvine and travels in an east-west/southeasterly direction through the City. The location of the fault is thought to run just north of the San Joaquin Hills, with the Irvine Civic Center sitting on top of the inferred location. However, the reliability of the inferred location is considered poor. If an earthquake were to occur on this blind thrust fault, the likelihood of surface rupture would be underground, thereby reducing potential risk to structures.

4.5.1.2 Ground Shaking

Geologic conditions refer to the stability of the soil during an earthquake. For example, loose, unconsolidated soil is more prone to liquefaction during an earthquake than compacted soil or rock. The City and its sphere of influence are in Seismic Zone 4, as identified in the Uniform Building Code. This zone indicates the highest classification of the four zones in the United States, with the most stringent requirements for building design. As the City is located within proximity to faults, the City could be subject to significant ground shaking which could damage buildings or infrastructure.

Ground shaking is the effect of surface motion generated by an earthquake that results in the majority of damage during seismic events (City of Irvine 2020). Several factors control how ground motion interacts with structures, making the hazard of ground shaking difficult to predict. Seismic waves propagating through the Earth's crust are responsible for the ground vibrations normally felt during an earthquake. Structures throughout the City could be affected by ground shaking during a seismic event. The City's Local Hazard Mitigation Plan (LHMP) includes a summary of the 2015 Third Uniform California Earthquake Rupture Forecast which provides the most recent assessment of the probability of a major earthquake on various faults between 2015 to 2044. The San Joaquin Hills Fault, located within the City, has a 40 percent probability of a major earthquake occurring while the Newport-Inglewood Fault, located 8 miles from the City, has a 95 percent probability of occurring. The LHMP also includes the U.S. Geological Survey forecasts regarding the severity of seismic shaking in different locations for various plausible earthquake scenarios. The U.S. Geological Survey scenarios show that the Newport-Inglewood and San Joaquin Hills faults could cause the strongest seismic shaking in Irvine. However, the largest magnitude events are anticipated to come from the more distant San Jacinto and San Andreas faults, which could cause earthquakes that have an overall higher magnitude than the Newport-Inglewood or San Joaquin Hills faults. However, due to the distance of the San Jacinto and San Andreas faults, the shaking intensity felt in Irvine would be reduced compared to the shaking that would be felt nearer the earthquakes' epicenters. The overall magnitude of potential earthquake scenarios occurring along the Newport-Inglewood and San Joaquin Hills faults is lower than some of the more regional faults but their proximity to Irvine means that the City would be subjected to high intensity shaking from these earthquakes. However, the likelihood of a powerful earthquake occurring along these faults per the 2015 Third Uniform California Earthquake Rupture Forecast within the next 25 years is exceptionally low.

4.5.1.3 Liquefaction

Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high intensity ground shaking. Liquefaction occurs when three general conditions exist: (1) shallow groundwater; (2) low -density non-cohesive (granular) soils; and (3) high -intensity ground motion. Liquefaction is typified by a buildup of pore-water pressure in the affected

soil layer to a point where a total loss of shear strength occurs, causing the soil to behave as a liquid. Studies indicate that saturated, loose to medium dense, near surface cohesionless soils exhibit the highest liquefaction potential, while dry, dense, cohesionless soils and cohesive soils exhibit low to negligible liquefaction potential. According to the Department of Conservation, the Planning Areas encompass earthquake zones of required investigation for liquefaction as mapped by the California Geologic Survey. Liquefaction zones may also contain areas susceptible to the effects of earthquake-induced landslides. This situation typically exists at or near the toes of existing landslides, downslope from rockfall or debris flow source areas, or adjacent to steep stream banks.

Figure 4.5-1 presents where liquefaction zones have been identified throughout the City, and Table 4.5-1 presents the acreage of land within the City, as well as specifically in the focus areas, designated as liquefaction zones.

Table 4.5-1
Liquefaction Susceptibility Acreages

Area	Acres
Focus Area 1	2,250.27
Focus Area 2	46.15
Focus Area 3	440.28
Remainder of City	9,136.6
TOTAL	**11,873.3**

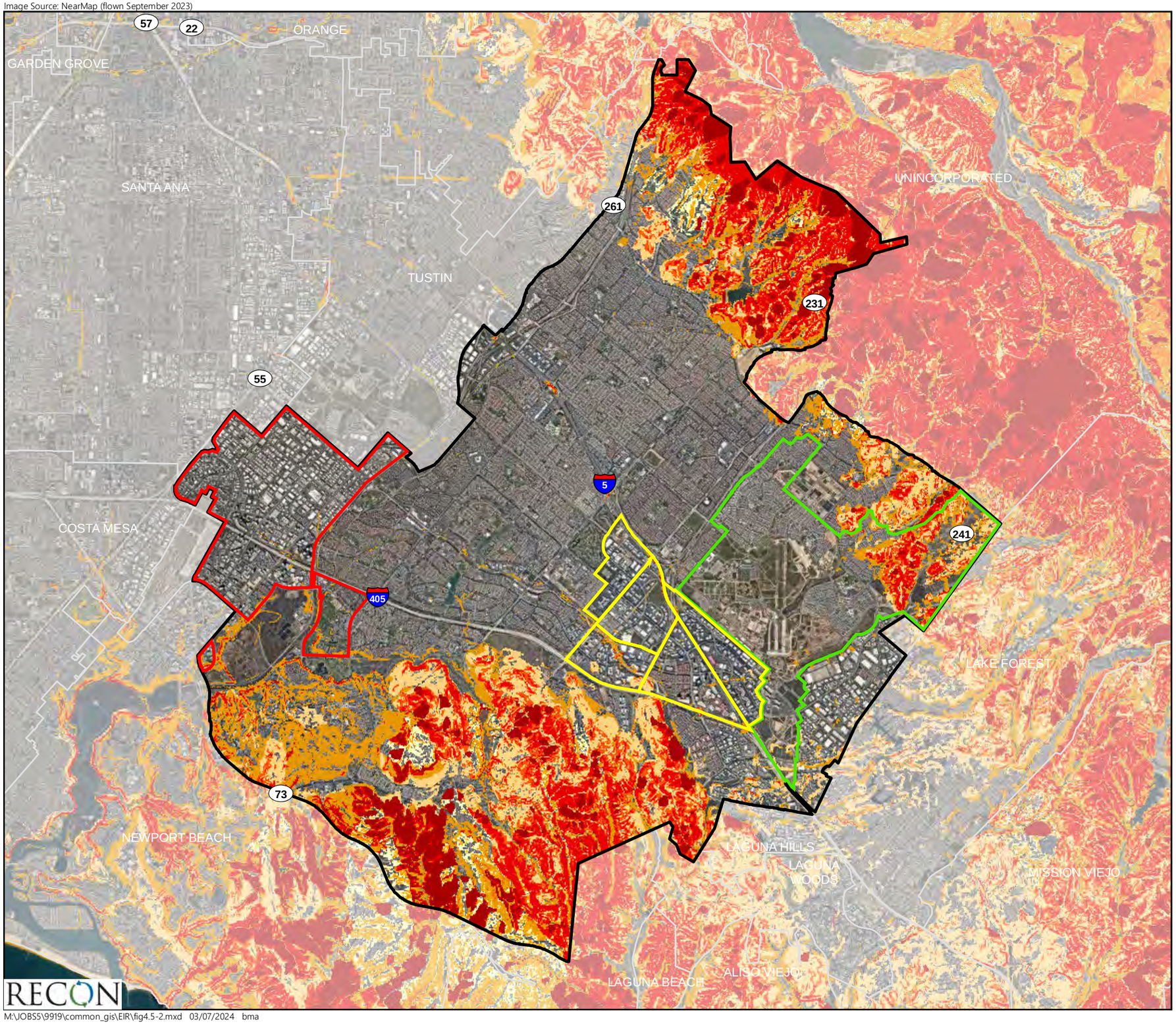
4.5.1.4 Soil Stability and Landslides

a. Landslides

Landslides occur when earth on slopes become destabilized, typically after heavy rains, when the precipitation saturates the soil and makes it less stable, or when significant erosion from rainfall destabilizes the ground. Slopes that have recently burned face a greater risk from rain-induced landslides, as the fires burn up many of the trees, brush, and other vegetation that help stabilize the earth. Earthquakes may also be a source of landslides as the shaking can destabilize already loosened soils (City of Irvine 2020).

There is the potential for landslides in the steeper portions of the foothills of the Santa Ana Mountains to the northeast of the City and the San Joaquin Hills to the southwest of the City. These areas are characterized with steep topography and geologic units that can become unstable. While no definitive scale for measuring landslides exists, landslide events are usually measured using the amount of material that is displaced (i.e., the cubic feet of earth that moved). In addition, to these landslide hazards, the California Geological Survey has mapped deep seated landslide hazards, which uses a scale of landslide susceptibility that is based on slope steepness and the strength of the underlying rock, with 0 being no susceptibility and 10 being the highest susceptibility. Figure 4.5-2 identifies the deep-seated landslide susceptibility within the City. Areas in the foothills of the Santa Ana Mountains and San Joaquin Hills show the greatest susceptibility within the City.

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3

Landslide Susceptiblity Classes

0
III
V
VI
VII
VIII
IX
X

The landslide susceptibility matrix, based on Rock Strength (RS) and Slope Steepness (SS) in degrees, is described below. Roman numerals may also be used to indcate class assignment:

- RS(1) & SS(<3 to 10); RS(2) & SS(<3); RS(3) & SS(<3) = susceptibility 0 (0).
- RS(1) & SS(10 to15) = susceptibility class 3 (III)
- RS(2) & SS(3 to10) = susceptibility class 5 (V)
- RS(1) & SS(15 to 20) susceptibility class 6 (VI)
- RS(1) & SS(20 to 30); RS(3) & SS(3 to 10) = susceptibility class 7 (VII)
- RS(1) & SS(30 to >40); RS(2) & SS(10 to 15) = susceptibility class 8 (VIII)
- RS(2) & SS(15 to >40); RS(3) & SS(10 to 15) = susceptibility class 9 (IX)
- RS(3) & SS(15 to >40) = susceptibility class 10 (X)

0 Miles 1.5

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FIGURE 4.5-2
Deep-Seated Landslide Susceptibility

b. Subsidence

Subsidence occurs when the level of the ground decreases, as if the surface is sinking. Subsidence can either be sudden (as in a sinkhole) or happen gradually over time. It can be caused by mining, groundwater pumping, or fossil fuel extraction, creating empty underground spaces that can collapse and cause the soil above to drop. Erosion, natural cave collapses, and seismic activity can also cause subsidence (City of Irvine 2020).

The City identified the low-lying areas that sit on top of the Orange County Water District (OCWD) groundwater basin as the most likely locations for subsidence. Other sections of the City are potentially subject to subsidence in the event of a major earthquake (magnitude of 5.0 or greater), although the City does not have a history of seismically induced subsidence. In terms of extent, subsidence is typically measured by the distance that the ground has sunk from its original elevation (i.e., in feet or inches) or by using the rate of subsidence (i.e., inches or centimeters per year).

There is evidence of subsidence in most of Orange County because of excessive groundwater pumping in the first half of the 20th century, prior to the development of the California State Water Project, which siphons water from the Owens Valley. Currently it is estimated that the greater LA Basin (including Orange County) experiences approximately 20 millimeters of net subsidence seasonally due to groundwater pumping and artificial recharge (City of Irvine 2020).

4.5.1.5 Paleontological Resources

Figure 4.5-3 presents the designations of paleontological sensitivity throughout the City. The City classifies paleontological sensitivity based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts within the known extent of geologic units (see Appendix D). Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher potential. The relative abundance of localities is intended to be the major determinant for the value assignment. Thousands of fossils have been recovered within the City boundaries. The following presents a summary of geologic units within the City and their assigned paleontological sensitivity:

- The Vaqueros, Sespe-Vaqueros, Sespe, Monterey, Puente and Capistrano Formations are assigned a high sensitivity. Formations assigned a moderate sensitivity include the Williams Formation Pleasants Sandstone Member, the Santiago Formation, the Topanga Group, the undifferentiated Puente Formation, and the Pliocene Niguel Formation.
- Pleistocene sediments generally lie beneath young sediments with no fossils. Shallow excavations should not impact Pleistocene fossils. Because the presence of Pleistocene fossils has been demonstrated the sediments have been ranked as moderate.
- The Silverado Formation has a low sensitivity along with young sediments. The El Modeno Volcanics and artificial fill are assigned no sensitivity (see Appendix D).

Map Source: City of Irvine

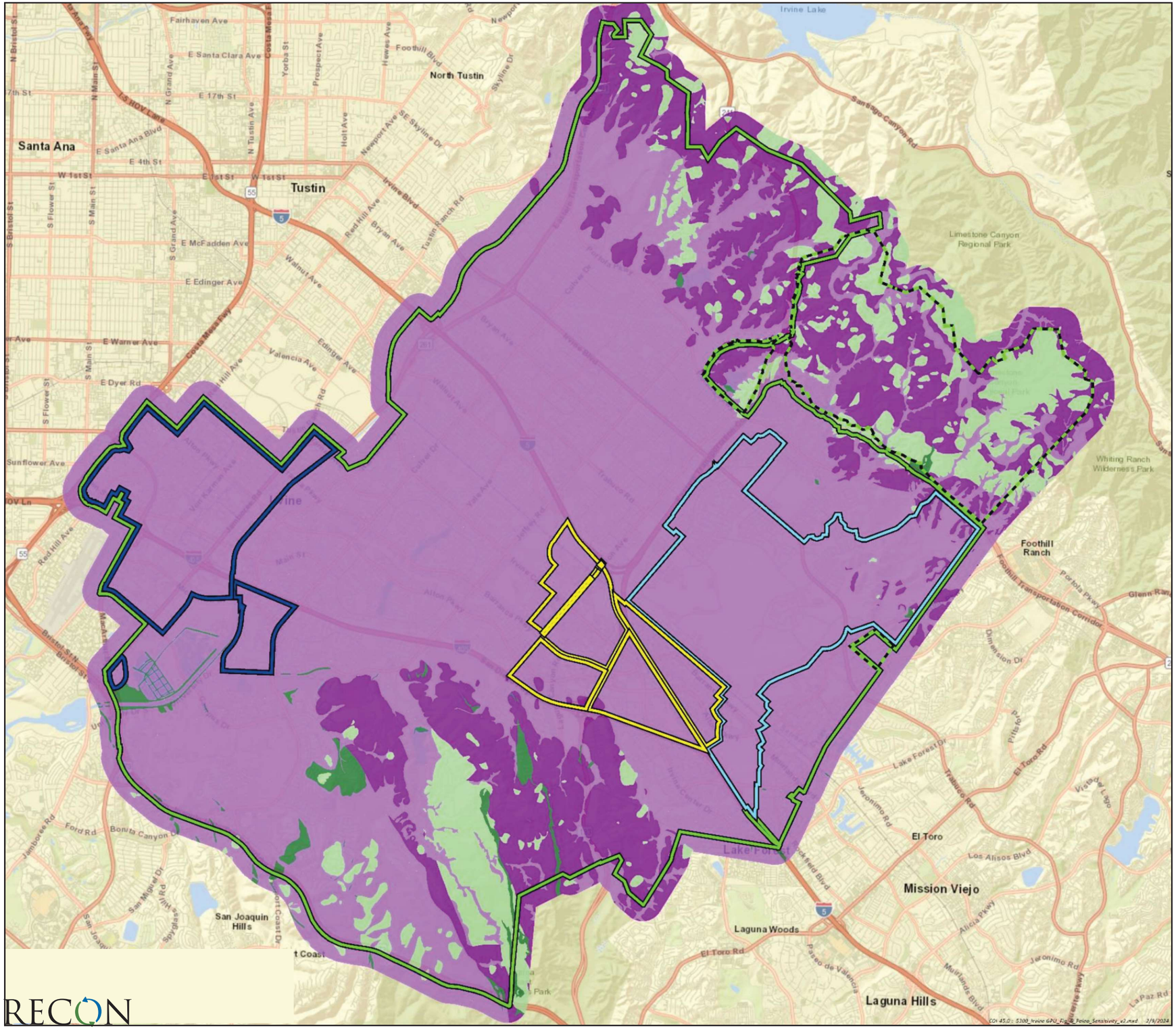

FIGURE 4.5-3
Paleontological Sensitivity

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4.5.2 Applicable Regulatory Requirements

4.5.2.1 State Regulations

a. Earthquake Fault Zoning Act (Alquist-Priolo Act)

The State of California Alquist-Priolo Earthquake Fault Zoning Act (1972) was established to mitigate the hazard of surface faulting to structures for human occupancy. Pursuant to the act, the state geologist has established regulatory zones (known as earthquake fault zones) around surface traces of active faults. Application for a development permit for any project within a delineated earthquake fault zone shall be accompanied by a geologic report, prepared by a geologist registered in the state of California, that is directed to the problem of potential surface fault displacement through a project site.

b. Seismic Hazard Mapping Act

The Seismic Hazard Mapping Act (SHMA) was adopted in 1990 to protect the public from the effects of nonsurface fault rupture earthquake hazards, including strong ground shaking, liquefaction, seismically induced landslides, ground amplification or other ground failure caused by earthquakes. The goal of the act is to minimize loss of life and property by identifying and mitigating seismic hazards. The California Geological Survey is the primary agency responsible for the implementation of the SHMA. The California Geological Survey prepares maps identifying seismic hazard zones and provides them to local governments, which include areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. SHMA requires responsible agencies to only approve projects within these zones following a site-specific investigation to determine if the hazard is present, and if so, the inclusion of appropriate mitigation(s). In addition, the SHMA requires real estate sellers and agents at the time of sale to disclose whether a property is within one of the designated seismic hazard zones.

c. California Building Standards Code (Title 24)

Title 24 of the California Code of Regulations (CCR) provides state regulations that govern the design and construction of buildings, associated facilities, and equipment. These regulations are also known as building standards (reference California Health and Safety Code Section 18909). Cities and counties are required by state law to enforce CCR Title 24 and may adopt ordinances making more restrictive requirements than provided by CCR Title 24 due to local climatic, geological, or topographical conditions.

d. State Water Resources Control Board General Construction Permit 2022

The State Water Resources Control Board (SWRCB) adopted the 2022 Construction Stormwater General Permit, Order 2022-0057-DWQ, on September 8, 2022, and it went into effect on September 1, 2023. State and regional water quality control boards have been charged with ensuring that beneficial uses and water quality objectives are established for all waters of the state. Development in the City would be subject to the National Pollutant Discharge Elimination System to protect water

resources and control pollutants in runoff. The GCP is administered at the local level by the Santa Ana Regional Water Quality Control Board.

e. California Public Resources Code Section 5097.5(a)

A person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.

4.5.2.2 Regional Regulations

a. South Coast Air Quality Management District Rules 402 and 403

Rules 402 and 403 require that fugitive dust be controlled during construction activities to limit exposure of nearby sites to fugitive dust resulting from construction activities. Rule 402 requires dust suppression techniques be implemented to prevent dust and soil erosion from creating a nuisance offsite. Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emissions source. This would reduce erosion potential during construction.

4.5.2.3 Local Regulations

a. Existing General Plan (2000)

The existing General Plan Seismic Element contains the following objectives and policies applicable to development in the project area:

Objective D-1: Potential Hazards: Take potential environmental hazards into account in the General Plan.

- Policy (a): Identify the locations of potential seismic hazards to minimize the effects of the potential hazard through special development constraints. Conduct a research program to develop more refined boundaries for seismic response areas, particularly for SRA 1.

Objective D-2: Response to Hazards: Require appropriate measures to protect public health and safety and to respond to seismic hazards in all public and private developments.

- Policy (a): Use Figure D-3 during development review to minimize the effects of environmental hazards as follows:
  - For development in Seismic Response Areas 1, 2, 3, and 4: Concurrent with submittal of applications for concept plans and zone changes, as well as the

preparation of environmental impact reports, preliminary geotechnical reports are required for the following uses:

1. All planning area level proposals.
2. Community/regional level shopping centers.
3. Major commercial/office centers.
4. Major public facilities
5. Major public utilities
6. Major transportation linkages.
7. Any facility critical to emergency response (i.e. hospitals, police and fire stations, municipal government centers, transportation linkages, and designated emergency centers).
8. Major industrial development (applies to SRA 1 only).

If a detailed geotechnical report confirms the existence of a seismic hazard, the City has the option to require special earthquake resistant design features or use limitations as appropriate to the specific case.

- For development in Seismic Response Area 5: Preliminary geotechnical reports shall be submitted with applications for concept plans and zone changes as well as with environmental impact reports for non-open space uses. Those reports should concentrate on addressing slope instability and probable changes to the environment which would occur if these areas would be developed.

  If a detailed geotechnical report confirms existence of potential seismic hazard, the City has the option to require special earthquake resistant design features or use limitations as appropriate to the specific case.

- Policy (d): Require detailed site studies to determine the potential for seismic hazards for facilities which are critical in an emergency. These facilities include but are not limited to:

  - Police and fire stations.
  - Municipal government centers.
  - Transportation infrastructure.
  - Major public utilities (electrical, gas and water facilities).
  - Designated emergency centers.
  - Buildings greater than 15 stories in height.

- Policy (g): Require a detailed geological and soils study as needed, in accordance with the requirements of the City's Subdivision Ordinance, before approving development.

b. Municipal Code

Title 5 (Planning), Division 9 (Building Regulations)

The City's Building Code Regulations are included in Division 9 of the City's Municipal Code, as adopted under Section 5-9-101 (Adoption of Building Code). Division 9 adopted by reference the most recent version of the California Building Code.

Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code)

The City's Grading Code establishes rules and regulations to control excavation, grading, and earthwork construction (including fills and embankments), and establishes administrative requirements for issuance of permits, approval of plans, and inspection of grading construction in accordance with the requirements for grading and excavation contained in the Uniform Building Code as adopted and modified by City ordinance. The Grading Code also contains water quality requirements.

c. Grading Manual

The City's Grading Manual is a compilation of rules, procedures, and interpretations necessary to carry out the provisions of the City's Grading Code. The purpose of the Grading Manual is to assist users of the Grading Code by supplementing it with detailed information regarding rules, interpretations, standard specifications, procedures, requirements, forms, and other information applicable to control excavation, grading and earthwork construction in the City. The Grading Manual also contains guidelines for the preparation of geotechnical and geology reports, slope stability analysis and erosion control plans. The geotechnical and geology reports, slope stability analysis and erosion control plan are required to be submitted as part of the grading plan and are reviewed and approved by the Building & Safety Division of the Community Development Department.

d. Local Hazard Mitigation Plan

The City developed the LHMP, most recently updated in 2020, to identify the hazards, estimate the probability of future occurrences, and set goals to mitigate potential risks to reduce or eliminate long-term natural or man-made hazard risks to human life and property for the City and its residents. The goals of the LHMP are to:

1. Protect against threats from natural hazards to life, injury, and property damage.
2. Increase public awareness of potential hazard events.
3. Preserve critical services and functions by protecting key facilities and infrastructure.
4. Protect natural systems from current and future hazard conditions.
5. Coordinate mitigation activities among City departments, neighboring jurisdictions, and with federal agencies.
6. Prepare for long-term change in hazard regimes.

The LHMP identifies local faults that may generate earthquakes and identifies potential vulnerabilities within the City that could be adversely affected by seismic events. The LHMP also identifies a mitigation strategy for reducing losses associated with seismic events.

The LHMP states that no active faults are located within the City; however, there are several nearby faults that could result in seismic hazards in the event of an earthquake. In addition to the hazards caused by seismic shaking, there is also a risk of liquefication in parts of the City due to the highwater table and types of soil present. THE LHMP documents historic southern California earthquakes that affected the Irvine region. The largest and most recent earthquake to occur within 100 miles of the City of Irvine was the 6.7 magnitude Northbridge Earthquake in 1994 that occurred approximately 56 miles from the City. Additional earthquakes that have occurred within the region since the beginning of the twentieth century are presented in Table 4.5-2.

Table 4.5-2
History of Major Southern California Earthquakes Since 1992

Year	Richter Scale Magnitude	Description
1933	6.4	Occurred near Long Beach, California, approximately 12 miles from Irvine
1937	6.0	Occurred near Oasis in Riverside County, approximately 92 miles from Irvine
1948	6.0	Occurred near Desert Hot Springs, California, approximately 88 miles from Irvine
1971	6.6	Occurred near San Fernando, California, approximately 61 miles from Irvine
1986	6.0	Occurred in the northern part of Palm Springs, California, approximately 72 miles from Irvine
1992	6.1	Occurred near Joshua Tree, California, approximately 87 miles from Irvine
1992	6.3	Occurred near Big Bear, California, approximately 66 miles from Irvine
1994	6.7	Northridge Earthquake occurred in a neighborhood of the city of Los Angeles and was 56 miles from Irvine
2019	7.1	Occurred roughly 11 miles northeast of Ridgecrest, California

SOURCE: City of Irvine 2020.

e. Planning Commission Resolution No. 09-2968

Standard Conditions are adopted by Planning Commission Resolution No. 09-2968. These conditions assist staff in applying standardized wording for frequently used conditions of approval for discretionary and subdivision applications. Standard conditions are applied on a case-by-case basis depending upon the specifics of the application. Companion conditions are cross-referenced and are required to be used together. The following standard conditions related to Geology and Soils apply:

Standard Condition 2.6 Site Specific Geotechnical Study

Prior to the issuance of grading permits, the applicant shall provide to the Chief Building Official a site-specific geotechnical study for each proposed structure. The geotechnical report shall be prepared by a registered civil engineer or certified engineering geologist, having competence in the field of seismic hazard evaluation and mitigation. The geotechnical report shall contain site-specific evaluations of the seismic hazard affecting the project and shall identify portions of the project site

containing seismic hazards. The report shall also identify any known off-site seismic hazards that could adversely affect the site in the event of an earthquake. The contents of the geotechnical report shall include, but shall not be limited to, the following:

a. Project description.
b. A description of the geologic and geotechnical conditions at the site, including an appropriate site location map.
c. Evaluation of site-specific seismic hazards based on geological and geotechnical conditions, in accordance with current industry standards of practice.
d. Recommendations for earthwork and construction.
e. Name of report preparer(s), and signature(s) of a certified engineering geologist and/or registered civil engineer, having competence in the field of seismic hazard evaluation and mitigation.
f. Include the official professional registration or certification number and license expiration date of each report preparer in the signature block of the report.

Standard Condition 3.3 Disclosure Statements

Prior to the issuance of building permits, the applicant shall submit to the Director of Community Development for review and approval a completed occupancy disclosure form for the project. The approved disclosure form, along with its attachments, shall be included as part of the rental/lease agreements and as part of the sales literature for the project. The disclosure statement shall include information, current as of the date of submittal, with respect to each item marked with an "x" on the list below. The items marked "n/a" need not be included.

a. Information on Noise resulting from aircraft and/or helicopter operations from John Wayne Airport.
b. Reference to Emergency Preparedness information available on the City of Irvine website at www.cityofirvine.org/office-emergency-management.
c. Map of Special Flood Hazard Area information for areas subject to inundation.
d. Notice that initial occupancy and any subsequent change in use or occupancy of any non-residential condominium space, requires the buyer or the new or existing occupant to apply to the Community Development Department and obtain approval by way of a of written zoning confirmation letter or obtain a building permit and obtain inspection approval for any necessary work to establish the use and/or occupancy consistent with that intended.
e. Notice that the property owner shall be responsible for continuous maintenance of the emergency access equipment thus ensuring these systems will be operational at all times, as required by the Chief of Police.
f. Notice that the property is located near and/or adjacent to private and/or public park(s) that may include recreational, field/court lighting, and other related improvements.
g. Notice that the property is located near and/or adjacent to public open space land that may include trails, trailheads, parking facilities, and other related improvements and operations.
h. Notice that the property is located near and/or adjacent to public trails and/or related improvements and operations.
i. Notice that residential buildings such as single-family homes, condominiums and apartments are prohibited from being used as short-term rentals (aka vacation rentals). A rental

arrangement for a term of less than 31 days is considered "short-term". For more detailed information contact the Community Development Department.

Standard Condition 2.5 Archaeologist/Paleontologist

Prior to the issuance of the first preliminary or precise grading permit for a project that is located on land that includes potentially significant archaeological and/or paleontological sites, and for any subsequent permit involving excavation to increased depth, the applicant shall provide letters from an archaeologist and a paleontologist. The letters shall state that the applicant has retained these individuals, and that the consultant(s) will be on call during all grading and other significant ground disturbing activities. Determination of the need for these consultants shall be based on the environmental analysis for the project. These consultants shall be selected from the roll of qualified archaeologists and paleontologists maintained by the County of Orange (OC Public Works / OC Planning). The archaeologist and paleontologist shall meet with Community Development staff, and shall submit written recommendations specifying procedures for cultural/scientific resource surveillance. These recommendations shall be reviewed and approved by the Director of Community Development prior to issuance of the grading permit and prior to any surface disturbance on the project site. Should any cultural/scientific resources be discovered during grading, no further grading shall occur in the area of the discovery until the Director of Community Development is satisfied that adequate provisions are in place to protect these resources. This condition and the approved recommendations shall be incorporated on the cover sheet of the grading plan under the general heading: "Conditions of Approval."

f. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the project and will help to reduce and avoid potential impacts related to geology and soils:

- PPP-GEO-1 Compliance with General Construction Permit
- PPP-GEO-2 Compliance with California Public Resources Code Section 5097.5(a) regarding paleontological resources
- PPP-GEO-3 Compliance with South Coast Air Quality Management District Rules 402 (Dust Suppression) and 403 (Fugitive Dust)
- PPP GEO-4 Compliance with Municipal Code Title 5 (Planning), Division 9 (Building Regulations) California Building Code
- PPP GEO-5 Compliance with Municipal Code Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code)
- PPP GEO-6 Compliance with the City's Grading Manual
- PPP GEO-7 Compliance with the Local Hazard Mitigation Plan
- PPP GEO-8 Compliance with Standard Condition 2.6 Site Specific Geotechnical Study
- PPP GEO-9 Compliance with Standard Condition 3.3 Disclosure Statements
- PPP-GEO-10 Compliance with Standard Condition 2.5 Archaeologist/Paleontologist

Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed Goals, Objectives, Policies, and Implementation Actions are applicable to the analysis of geology and soils and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

SafetyElement

Goal 3: Anticipate the risks and mitigate the effects that flood hazards pose to the community.

Objective S-3. Flood Hazards. The following policies support Goal S-3:

- **Policy (a):** Work with Orange County Flood Control District to ensure flood control facilities are adequately provided and maintained.
- **Policy (b)**: Collaborate with partner agencies and municipalities to align green infrastructure projects (i.e., projects that allow for the filtration of stormwater where it falls) and develop regulations for watersheds across jurisdictions to reduce impervious hard surfaces.
- **Policy (c):** Support efforts of other organizations and academic institutions to conduct studies of the impact combined riverine and coastal flooding, groundwater intrusion, and increased precipitation has on flood risk and vulnerability.
- **Policy (d)**: Support efforts of other organizations and academic institutions to inventory and map vegetation on hillsides with a specific focus on improving hillside stability in the case of extreme rainfall and seasonal erosion.
- **Policy (e):** Develop or update a long-term plan to address current and future flood risk to critical facilities.
- **Policy (g)**: Ensure resilience and long-term functionality of stormwater and sewer systems.
- **Policy (h):** Encourage the use of climate-smart landscaped surfaces (e.g., permeable pavement, stormwater parks, green streets) in new and existing developments to reduce runoff, minimize flood hazards, and maintain existing drainage ways.

Safety Element

Goal 2: Improve the community's resilience to seismic and geologic hazards by ensuring the integrity of the built environment.

Objective S-2. Seismic and Geologic Hazards. The following policies support Goal S-2:

- **Policy (a)**: Coordinate with Irvine Ranch Water District and Orange County Water District on emergency water storage and distribution following a liquefaction or landslide event.
- **Policy (b)**: Coordinate groundwater management with Orange County Water District to avoid subsidence impacts in Irvine.
- **Policy (c)**: Promote the strengthening of planned utilities, the retrofit and rehabilitation of existing weak structures and lifeline utilities, and the relocation or strengthening of certain critical facilities to increase public safety and minimize potential damage from seismic and geologic hazards.

- Policy (d): Encourage replanting bare or disturbed areas after landslides to reduce erosion.

4.5.3 Significance Determination Thresholds

The City has adopted Appendix G of the State California Environmental Quality Act (CEQA) Guidelines as the significance thresholds for geological resources. A significant impact would occur if the project would:

1) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
   a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42,
   b. Strong seismic ground shaking,
   c. Seismic-related ground failure, including liquefaction,
   d. Landslides;
2) Result in substantial soil erosion or the loss of topsoil;
3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property;
5) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water;
6) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.5.4 Methodology

The potential for significant impacts associated with the project has been determined based upon review of existing secondary source information and data relative to the geology and soils resources available for the City. Additionally, a paleontological resources assessment was prepared for the project that included a records search at the Natural History Museum of Los Angeles County, as well as review of published literature, unpublished paleontological reports, and fossil databases (see Appendix D).

4.5.5 Topics 1 and 3: Seismic Hazards and Unstable Geology, and Topic 4: Expansive Soils

Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication

42); (ii) strong seismic ground shaking? (iii) seismic-related ground failure, including liquefaction; or (iv) landslides?

Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

4.5.5.1 Impact Analysis

a. Earthquake Fault Rupture and Strong Seismic Ground Shaking

The City and its sphere of influence are affected by both local and regional active faults. As previously stated, the City's LHMP includes a summary of the most recent assessment of the probability of a major earthquake on various faults between 2015 to 2044. The San Joaquin Hills Fault, located within the City, has a 40 percent probability of a major earthquake occurring while the Newport-Inglewood Fault, located 8 miles from the City, has a 95 percent probability of occurring. The LHMP also includes the U.S. Geological Survey forecasts regarding the severity of seismic shaking. The scenarios show that the Newport-Inglewood and San Joaquin Hills faults could cause the strongest seismic shaking in Irvine. However, the largest magnitude events are anticipated to come from the more distant San Jacinto and San Andreas faults, which could cause earthquakes that have an overall higher magnitude than the Newport-Inglewood or San Joaquin Hills faults. However, due to distance of the distant of the San Jacinto and San Andreas faults, the shaking intensity felt in Irvine would be reduced compared to the shaking that would be felt nearer the earthquakes' epicenters. The overall magnitude of potential earthquake scenarios occurring along the Newport-Inglewood and San Joaquin Hills faults is lower than some of the more regional faults but their proximity to Irvine means that the City would be subjected to high intensity shaking from these earthquakes. However, the likelihood of a powerful earthquake occurring along these faults within the next 25 years is exceptionally low.

Future projects introducing new development in the City associated with project approval could expose people to impacts related to seismic ground shaking. These projects would be required to adhere to safety requirements in the Municipal Code requirements related to the City's Building Code, Grading Code, Grading Manual, and site-specific geotechnical studies (PPPs GEO-4, GEO-5, GEO-6, and GEO-8), which would ensure that structures would be designed with the geologic hazards in mind to reduce risks associated with strong seismic ground shaking, seismic-related ground failure, and other geologic hazards such as subsidence and landslides. Compliance with these regulations would reduce impacts related to seismic shaking to a less than significant level. Furthermore, safety requirements related to ruptures and seismic shaking include Safety Element Update Policy S-2(c), which promotes the strengthening of planned utilities, the retrofit and rehabilitation of existing weak structures and lifeline utilities, and the relocation or strengthening of certain critical facilities to increase public safety and minimize potential damage from seismic and geologic hazards. Updated Safety Element goals, objectives, and policies would further the City's goal of reducing seismic-related hazards.

b. Liquefaction, Landslides, Lateral Spreading, Subsidence, and Expansive Soils

Figure 4.5-1 presents where liquefaction zones have been identified throughout the City, and Table 4.5-1 presents the acreage of land within the City designated as a liquefaction zone. Approximately 2,250.26 acres of Focus Area 1, 46.15 acres of Focus Area 2, and 440.28 acres of Focus Area 3, and 9,136.6 acres in the remainder of the City are in the liquefaction susceptibility zone. Figure 4.5-2 identifies the areas of the City that are considered vulnerable to seismic induced landslides. As illustrated by this figure, there is the potential for landslides in the steeper portions of the foothills of the Santa Ana Mountains to the northeast of the City and the San Joaquin Hills to the southwest of the City. These areas are characterized with steep topography and geologic units that can become unstable. Even these areas; however, are designated as having a moderately low risk of landslides due to seismic conditions, and a low likelihood of a landslide under other conditions.

The City's LHMP identified that the most likely locations for subsidence in Irvine are the low-lying areas that sit on top of the OCWD groundwater basin as Irvine does not have a history of seismically induced subsidence. Since Irvine has not experienced acute subsidence events, it seems unlikely that subsidence will occur in the City's future and would be unlikely to impact new development as part of the project. The most likely cause of a future event would be linked to an extreme drought in the future that leads to intensified groundwater withdrawals from the groundwater aquifer. In addition, although the likelihood of occurrence is low, the City's proximity to seismically active faults suggest the potential for a significant earthquake exists, which could lead to seismically induced subsidence in the future. As discussed further in Section 4.8, Hydrology, future projects would be required to comply with the OCWD's groundwater management plan (PPP HYD-4), applicable Water Quality Management Plan requirements, and City Standard Condition 2.7 (PPP HYD-13) to minimize impacts related to groundwater depletion or intrusion. Safety Element Update Policy S-2(b) would further support the City's goal of coordinating with OCWD to avoid and reduce groundwater depletion.

As noted by the City's LHMP, although expansive soils exist, the City requires compliance with the California Building Code (PPP GEO-4), which is intended to mitigate hazards associated with this condition through professional consideration of foundation types and design criteria, including bearing capacity, for structures to be developed in the City to minimize the effects of expansive soils.

The project would facilitate future development consisting of residential uses required to meet the City's Regional Housing Needs Assessment (RHNA) requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Future development under the project would be required to adhere to safety requirements in the City's General Plan Safety Element Update and Municipal Code requirements related to the City's Building Code (PPP GEO-4), Grading Code (PPP GEO-5), Grading Manual (PPP GEO-6), and Standard Condition 2.6 Site Specific Geotechnical Study (PPP GEO-8) which would reduce impacts related liquefaction, landslide lateral spreading, subsidence, and expansive soils to a less than significant level. Furthermore, the project's Conservation and Open Space Element and Safety Element Update include the objectives and policies related to geologic hazards. For example, Conservation and Open Space Objective COS-3 aims to minimize the danger to life and property from geophysical hazards, including, but not limited to, unstable soils, liquefaction, steep slopes, and floodways, and Safety

Element Objective S-2 aims to improve the community's resilience to seismic and geologic hazards by ensuring the integrity of the built environment. Therefore, compliance with existing City's Municipal Code (PPP GEO-4 and GEO-5), Grading Manual (PPP GEO-6), LHMP (PPP GEO-7), and applicable standard conditions (PPPs GEO-1, PPP GEO-2, GEO-8, GEO-9) would ensure that both direct and indirect impacts related to the risk of loss, injury, or death involving: rupture of a known seismic-related ground failure, including liquefaction, landslides, lateral spreading. and expansive soils would be less than significant. Compliance with these measures would also limit impacts resulting from development on geology or soil that is unstable or that could become unstable, or located on expansive soil, to a less than significant level.

4.5.5.2 Significance of Impacts Topics 1 and 3: Seismic Hazards and Unstable Geology and Topic 4: Expansive Soils

Future projects would be required to comply with existing City's Municipal Code (PPP GEO-4 and GEO-5), Grading Manual (PPP GEO-6), LHMP (PPP GEO-7), and applicable standard conditions (PPPs GEO-1, PPP GEO-2, GEO-8, GEO-9). Compliance with these regulations would ensure that the project would not result in any impacts related to seismic hazards (rupture, shaking, failure, and landslides), unstable geology, or expansive soils, and impacts would be less than significant.

4.5.5.3 Mitigation Topics 1 and 3: Seismic Hazards and Unstable Geology and Topic 4: Expansive Soils

Impacts would be less than significant. No mitigation is required.

4.5.6 Topic 2: Soil Erosion

Would the project result in substantial soil erosion or the loss of topsoil?

4.5.6.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

As further described in Section 4.8, Hydrology, future development under the project would have the potential to result in increased erosion both on- and off-site during construction and operation of future development.

The statewide General Construction Permit (PPP HYD-1) requires preparation and implementation of a SWPPP for projects that would disturb one or more acres and include construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre (SWRCB 2022). The SWPPP would provide construction related BMPs to reduce erosion, resulting from construction associated with future development.

Post-construction erosion resulting from increased runoff would also generally be avoided or reduced through site design and hydromodification control BMPs as required per PPP-HYD-3, PPP-HYD-5, PPP-HYD-10, PPP-HYD-12, and PPP-HYD-16. Projects would also be required to adhere to the City's Municipal Code (PPP-HYD-10, PPP-HYD-11), Standard Conditions (PPP-HYD-14, PPP-HYD-15), Grading Manual (PPP-HYD-12), to reduce operational impacts associated with erosion. Additionally, General Plan Policies S-3(b), S-3(e), S-3(f), S-3(h), S-3(i), S-3(j), S-3(k), S-5(d), S-5(f), S-5(h), and S-5(j) would further the City's goals of reducing erosion and siltation impacts resulting from operation of future development associated with the project by increasing groundwater infiltration.

Therefore, with implementation of the PPPs above, impacts related to soil erosion would be reduced to a less than significant level.

4.5.6.2 Significance of Impacts

Future projects would be required to comply with existing City regulations and applicable standard conditions (PPPs HYD-1, HYD-3, PPP-HYD-5, PPP-HYD-10, PPP-HYD-11 PPP-HYD-12, PPP-HYD-14, PPP-HYD-15, and PPP-HYD-16). Compliance with these regulations would ensure that project would not result in any impacts related to substantial soil erosion or the loss of topsoil. Impacts would be less than significant.

4.5.6.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.5.6.4 Significance of Impacts after Mitigation

Impacts would be less than significant. No mitigation is required.

4.5.7 Topic 5: Septic Tanks

Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

4.5.7.1 Impact Analysis

The project does not propose the use of septic tanks or alternative wastewater disposal systems. All future development under the project would be served by wastewater utility providers.

4.5.7.2 Significance of Impacts

All future development under the project would be served by wastewater utility providers. Therefore, the project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. No impact would occur.

4.5.7.3 Mitigation

No impact would occur. No mitigation is required.

4.5.8 Topic 6: Paleontological Resources and Unique Geology

Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

4.5.8.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Previous City documents used a four-tiered ranking system to assess the sensitivity of sediments for fossils (City of Irvine 2015). Using the City's system, geologic units are classified according to the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts within the known extent of the geological unit described in Section 4.5.1.5.

As shown in Figure 4.5-3, the northeastern and southeastern portion of the city are interspersed with areas of high paleontological sensitivity rating, while the remaining majority of the City classified as having moderate paleontological sensitivity rating. Future development within areas with high and moderate sensitivity would have the potential to disturb native soils, and therefore may impact paleontological resources. Per Standard Condition 2.5 (PPP-GEO-10), prior to the issuance of the first preliminary or precise grading permit for a project that is located on land that includes potentially significant archaeological and/or paleontological sites, and for any subsequent permit involving excavation to increased depth, the applicant must provide letters stating that a qualified archaeologist and paleontologist would be on-site during ground disturbing activities and would provide procedures for cultural/scientific resource surveillance. Despite compliance with Standard Condition 2.5, impacts would remain potentially significant and mitigation requiring a site-specific paleontological assessment and/or monitoring for all soils below 5 feet would be required (mitigation measure GEO-1).

4.5.8.2 Significance of Impacts

At a program level of analysis, it cannot be known with certainty that impacts to paleontological resources could be fully avoided, which would be considered significant.

4.5.8.3 Mitigation

GEO-1: Prior to issuance of grading permits, applicants for future proposed ground disturbing projects in undisturbed sediments ranked moderate or above shall be required to either (1) provide a technical paleontological assessment consisting of a record search, survey, background context and project specific recommendations

performed by a qualified paleontologist (with a graduate degree and a specialization in vertebrate paleontology) to the City of Irvine Department of Community Development or (2) agree to monitoring all excavations below five feet. If resources are known or reasonably anticipated the recommendations shall provide a detailed mitigation plan requiring monitoring during grading and other earthmoving activities in undisturbed sediments. The plan will establish a fossil recovery protocol that includes data to be collected, requires professional identification, radiocarbon dates and other special studies as appropriate, requires curation at local curation facility such as such as the John D. Cooper Center operated by the County of Orange for fossils meeting significance criteria. A comprehensive final mitigation compliance report including a catalog of fossil specimens with museum numbers and an appendix containing a letter from the museum stating that they are in possession of the fossils shall be required.

4.5.8.4 Significance of Impacts after Mitigation Topic 5: Paleontological Resources

Impacts to paleontological resources would equate to a significant impact as paleontological resources are nonrenewable resources in nature. However, through implementation of GEO-1, the development of a technical paleontological assessment would reduce potential impacts to paleontological resources during ground disturbance on sites with moderate or high sensitivity sediments. In addition, GEO-1 requires that a fossil recovery protocol would be implemented in the event of unanticipated discovery during construction that would ensure that paleontological resource would not be destroyed. Projects would also be subject to compliance with PPP-GEO-10 (Standard Condition 2.5) which would ensure that ground disturbing activities during project construction are monitored by a qualified archaeologist and paleontologist. Impacts related to paleontological resources would therefore be mitigated to a less than significant level. Implementation of the mitigation measure GEO-1 described above would potentially reduce impacts on paleontological resources to a level less than significant. However, as no specific development projects have been identified at this time, it is not possible to ensure that every future project could fully mitigate potentially significant impacts. Therefore, impacts to paleontological resources would remain significant and unavoidable at this program level of review.

4.5.9 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for geology and soils. The study area for the assessment of cumulative impacts related to geologic resources is defined as the City. Future development could increase the number of people exposed to seismic and geologic hazards, and erosion rates could be accelerated by earthwork for new construction. Projects would be required to comply with applicable City regulations, including following the adopted Building Code, Municipal Code, and Standard Conditions to reduce the potential for seismic-related impacts and impacts related to soil erosion (PPPs GEO-1 through GEO-9). Additionally, increased development could encroach on areas with paleontological resources which could be lost if not monitored properly.

However, all future development would be required to adhere to all relevant PPP's described above (PPP-GEO-1 through PPP-GEO-10). Implementation of the mitigation measure GEO-1 described above would potentially reduce impacts on paleontological resources to a level less than significant. However, as no specific development projects have been identified at this time, it is not possible to ensure that every future project could fully mitigate potentially significant impacts. Therefore, impacts to paleontological resources would remain cumulatively considerable and significant and unavoidable.

4.6 Greenhouse Gas Emissions

This section analyzes the greenhouse gas (GHG) impacts that could result from implementation of the project. The analysis in this section is based on statewide GHG emissions reduction goals and GHG inventory data from the Greenhouse Gas Emissions Forecasts Report for the City of Irvine Draft Climate Action and Adaptation Plan (CAAP) dated August 8, 2023 (Appendix E). Additionally two hypothetical projects were modeled; emissions modeling results are included as Appendix F-1 and Appendix F-2.

4.6.1 Existing Conditions

4.6.1.1 Greenhouse Gases and Climate Change

There are numerous GHGs, both naturally occurring and resulting from human activities. Each GHG has variable atmospheric lifetime and global warming potential (GWP). The atmospheric lifetime of the gas is the average time a molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. GWP is a measure of the potential for a gas to trap heat and warm the atmosphere. Although GWP is related to its atmospheric lifetime, many other factors including chemical reactivity of the gas also influence GWP. GWP is reported as a unitless factor representing the potential for the gas to affect global climate relative to the potential of carbon dioxide (CO_2). Because CO_2 is the reference gas for establishing GWP, by definition its GWP is 1. Although methane (CH_4) has a shorter atmospheric lifetime than CO_2, it has a 100-year GWP of 28; this means that CH_4 has 28 times more of an effect on global warming than CO_2 on a molecule--by-molecule basis.

GHG emissions estimates are typically represented in terms of equivalent metric tons of CO_2 (MT CO_2E). CO_2E emissions are the product of the amount of each gas by its GWP. The effects of several GHGs may be discussed in terms of MT CO_2E and can be summed to represent the total potential of these gases to warm the global climate. Table 4.6-1 summarizes some of the most common GHGs. All of the gases in Table 4.6-1 are produced by both biogenic (natural) and anthropogenic (human) sources. The GHGs of primary concern in this analysis are CO_2, CH_4, and N_2O.

Table 4.6-1 Global Warming Potentials and Atmospheric Lifetimes (years)			
Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
Carbon dioxide (CO_2)	50–200	1	1
Methane (CH_4)	12.4	28	84
Nitrous oxide (N_2O)	121	265	264
HFC-23	222	12,400	10,800
HFC-32	5.2	677	2,430
HFC-125	28.2	3,170	6,090
HFC-134a	13.4	1,300	3,710
HFC-143a	47.1	4,800	6,940
HFC-152a	1.5	138	506
HFC-227ea	38.9	3,350	5,360
HFC-236fa	242	8,060	6,940
HFC-43-10mee	16.1	1,650	4,310
CF_4	50,000	6,630	4,880
C_2F_6	10,000	11,100	8,210
C_3F_8	2,600	8,900	6,640
C_4F_{10}	2,600	9,200	6,870
c-C_4F_8	3,200	9,540	7,110
C_5F_{12}	4,100	8,550	6,350
C_6F_{14}	3,100	7,910	5,890
SF_6	3,200	23,500	17,500
SOURCE: Intergovernmental Panel on Climate Change (IPCC) 2007, 2014. GWP = growth warming potential			

4.6.1.2 GHG Inventories

a. State

The California Air Resources Board (CARB) performs statewide GHG inventories. The inventory is divided into the following sectors of economic activity: electricity generation, transportation, industrial, commercial, residential, agriculture and forestry. Emissions are quantified in million metric tons (MMT) of CO_2E. Table 4.6-2 shows the estimated statewide GHG emissions for the years 1990, 2019, and 2021. Although annual GHG inventory data is available for years 2000 through 2021, the years 1990, 2019, and 2021 are highlighted in Table 4.6-2 because 1990 is the baseline year for established reduction targets, 2019 corresponds to the year for which inventory data for the City is available, and 2021 is the most recent data available.

Table 4.6-2 California GHG Emissions by Sector in 1990, 2019, and 2021			
Sector	1990[1] Emissions in MMT CO_2E (% total)[2]	2019[3] Emissions in MMT CO_2E (% total)[2]	2021[3] Emissions in MMT CO_2E (% total)[2]
Electricity Generation	110.5 (25.7%)	60.4 (14.9%)	62.6 (16.4%)
Transportation	150.6 (35.0%)	166.4 (41.2%)	149.5 (39.2%)
Industrial	105.3 (24.4%)	92.2 (22.8%)	85.3 (22.4%)
Commercial	14.4 (3.4%)	23.0 (5.7%)	22.5 (5.9%)
Residential	29.7 (6.9%)	31.0 (7.7%)	30.5 (8.0%)
Agriculture & Forestry	18.9 (4.4%)	31.3 (7.7%)	30.9 (8.1%)
Not Specified	1.3 (0.3%)	--	--
TOTAL[4]	**430.7**	**404.3**	**381.3**

SOURCE: CARB 2007 and 2023.
[1]1990 data was obtained from the CARB 2007 source and are based on IPCC fourth assessment report GWPs.
[2]Percentages may not total 100 due to rounding.
[3]2019 and 2021 data was retrieved from the CARB 2023 source and are based on IPCC fourth assessment report GWPs.
[4]Totals may vary due to independent rounding.

As shown in Table 4.6-2, statewide GHG source emissions totaled about 430.7 MMT CO_2E in 1990, 404.3 MMT CO_2E in 2019, and 381.3 MMT CO_2E in 2021. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. However, transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

b. Local

A 2019 GHG emissions inventory was conducted in conjunction with preparation of the City's CAAP. The inventory covers GHG emissions from ten sectors within the boundaries of the City. The results are summarized in Table 4.6-3.

Table 4.6-3 City GHG Emissions in 2019		
	2019 Baseline Emissions	
Source	MT CO_2E	%
On-Road Transportation	1,144,205	51
Nonresidential Building Energy	550,138	24
Residential Building Energy	291,405	13
Solid Waste	160,626	7
Off-Road Vehicles and Equipment	68,756	3
Water Supply	30,798	1
Wastewater Treatment	5,665	<1
TOTAL	**2,251,593**	**100**

SOURCE: City of Irvine 2023.

4.6.2 Applicable Regulatory Requirements

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions. The following is a discussion of the federal, state, and local plans and regulations most applicable to the project.

4.6.2.1 Federal Regulations

a. U.S. Environmental Protection Agency

In 2009, the U.S. Environmental Protection Agency (U.S. EPA) issued its science-based finding that the buildup of heat-trapping GHGs in the atmosphere endangers public health and welfare. The "Endangerment Finding" reflects the overwhelming scientific evidence on the causes and impacts of climate change. It was made after a thorough rulemaking process considering thousands of public comments and was upheld by the federal courts.

The U.S. EPA has many federal level programs and projects to reduce GHG emissions. The U.S. EPA provides technical expertise and encourages voluntary reductions from the private sector. One of the voluntary programs applicable to the project is the Energy Star program. Energy Star products such as appliances, building products, heating and cooling equipment, and other energy-efficient equipment would be utilized by the project.

Energy Star is a joint program of U.S. EPA and the U.S. Department of Energy, which promotes energy-efficient products and practices. Tools and initiatives include the Energy Star Portfolio Manager, which helps track and assess energy and water consumption across an entire portfolio of buildings, and the Energy Star Most Efficient 2020, which provides information on exceptional products which represent the leading edge in energy-efficient products in the year 2020 (U.S. EPA 2024a).

The U.S. EPA also collaborates with the public sector, including states, tribes, localities and resource managers, to encourage smart growth, sustainability preparation, and renewable energy and climate change preparation. These initiatives include the Clean Energy – Environment State Partnership Program, the Climate Ready Water Utilities Initiative, the Climate Ready Estuaries Program, and the Sustainable Communities Partnership (U.S. EPA 2024b).

b. Corporate Average Fuel Economy Standards

The project would generate vehicle trips that would consume fuel and generate GHG emissions. The federal Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the U.S. The first phase of the program applied to passenger cars, new light-duty trucks, and medium-duty passenger cars with model years 2012 through 2016, and required these vehicles to achieve a standard equivalent to 35.5 miles per gallon (mpg). The second phase of the program applies to model years 2017 through 2025 and increased the standards to 54.5 mpg. Separate standards were also established for medium- and heavy-duty vehicles. The first phase applied to model years 2014 through 2018 and the second phase applies to model years 2018

through 2027. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

4.6.2.2 State Regulations

a. Statewide GHG Emission Targets

S-3-05—Statewide GHG Emission Targets

This executive order (EO) establishes the following GHG emissions reduction targets for the state of California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels; and
- by 2050, reduce GHG emissions to 80 percent below 1990 levels.

This EO also directs the secretary of the California Environmental Protection Agency to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and report on mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006, and has since been updated every two years.

B-30-15—2030 Statewide GHG Emission Goal

This EO, issued on April 29, 2015, establishes an interim GHG emission reduction goal for the state of California by 2030 of 40 percent below 1990 levels. This EO also directed all state agencies with jurisdiction over GHG emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05. Additionally, this EO directed CARB to update its Climate Change Scoping Plan to address the 2030 goal.

Assembly Bill 1279

Assembly Bill (AB) 1279, approved in September 2022, requires the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below 1990 levels. The bill would require the state board to work with relevant state agencies to ensure that updates to the scoping plan identify and recommend measures to achieve these policy goals and to identify and implement a variety of policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies.

b. Assembly Bill 32—California Global Warming Solutions Act of 2006

In response to EO S-3-05, the California Legislature passed AB 32, the California Global Warming Solutions Act of 2006, and thereby enacted Sections 38500–38599 of the California Health and Safety

Code. The heart of AB 32 is its requirement that CARB establish an emissions cap and adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. AB 32 also required CARB to adopt a plan by January 1, 2009, indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

c. Senate Bill 32—California Global Warming Solutions Act Update

Approved in September 2016, Senate Bill (SB) 32 updates the California Global Warming Solutions Act of 2006 and enacts EO B-30-15. Under SB 32, the state would reduce its GHG emissions to 40 percent below 1990 levels by 2030. This is equivalent to an emissions level of approximately 260 MMT CO_2E for 2030. In implementing the 40 percent reduction goal, CARB is required to prioritize emissions reductions to consider the social costs of the emissions of GHGs; where "social costs" is defined as "an estimate of the economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of greenhouse gas emission per year."

d. Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, CARB adopted the Climate Change Scoping Plan: A Framework for Change (Scoping Plan) in 2008, which identifies the main strategies California will implement to achieve the GHG reductions necessary to reduce forecasted business as usual (BAU) emissions in 2020 to the state's historic 1990 emissions level (CARB 2008). In November 2017, CARB released the 2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target (2017 Scoping Plan; CARB 2017). The 2017 Scoping Plan identifies state strategies for achieving the state's 2030 interim GHG emissions reduction target codified by SB 32. Measures under the 2017 Scoping Plan Scenario build on existing programs such as the Low Carbon Fuel Standard, Advanced Clean Cars Program, Renewables Portfolio Standard (RPS), Sustainable Communities Strategy (SCS), Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. Additionally, the 2017 Scoping Plan proposes new policies to address GHG emissions from natural and working lands. The 2022 Scoping Plan Update for Achieving Carbon Neutrality (2022 Scoping Plan; CARB 2022) was adopted in December 2022. The 2022 Scoping Plan assesses the progress towards the 2030 GHG emissions reduction target identified in the 2017 Scoping Plan and lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The 2022 Scoping Plan identifies strategies related to clean technology, energy development, natural and working lands, and others, and is designed to meet the state's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

e. Regional Emissions Targets—SB 375

SB 375, the 2008 Sustainable Communities and Climate Protection Act, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations

under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a SCS or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's Regional Transportation Plan (RTP). Southern California Association of Governments (SCAG) is the region's MPO. In 2018, CARB set targets for the SCAG region of an 8 percent reduction in GHG emissions per capita from automobiles and light-duty trucks compared to 2005 levels by 2020 and a 19 percent reduction by 2035. These targets are periodically reviewed and updated.

f. Renewables Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "Initial RPS"), the goal has been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, SB 2 (1X) codified California's 33 percent RPS goal. SB 350 (2015) increased California's renewable energy mix goal to 50 percent by year 2030. SB 100 (2018) further increased the standard set by SB 350 establishing the RPS goal of 44 percent by the end of 2024, 52 percent by the end of 2027, and 60 percent by 2030.

g. California Building Standards Code (Title 24)

The California Code of Regulations (CCR), Title 24, is referred to as the California Building Code (CBC). It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility and so on. Of particular relevance to GHG emissions reductions are the CBC's energy efficiency and green building standards as outlined below.

Title 24, Part 6 – Energy Code

The California Code of Regulations, Title 24, Part 6 is the California Energy Efficiency Standards for Residential and Nonresidential Buildings (also known as the California Energy Code). This code, originally enacted in 1978, establishes energy-efficiency standards for residential and nonresidential buildings in order to reduce California's energy consumption. The Energy Code is updated periodically to incorporate and consider new energy-efficient technologies and methodologies as they become available, and incentives in the form of rebates and tax breaks are provided on a sliding scale for buildings achieving energy efficiency above the minimum standards.

The current 2022 Title 24 Building Energy Efficiency Standards went into effect on January 1, 2023. The 2022 Energy Code increases on-site renewable energy generation from solar, increases electric load flexibility to support grid reliability, reduces emissions from newly constructed buildings, reduces air pollution for improved public health, and encourages adoption of environmentally beneficial efficient electric technologies.

New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). The compliance reports must

demonstrate a building's energy performance through use of CEC approved energy performance software that shows iterative increases in energy efficiency given the selection of various heating, ventilation, and air conditioning; sealing; glazing; insulation; and other components related to the building envelope.

Title 24, Part 11 – California Green Building Standards Code

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The most recent 2022 CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of nonresidential and residential structures. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements. The mandatory measures are related to planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. 2022 CALGreen also includes two tiers of residential and nonresidential voluntary measures that encourage local jurisdictions to raise the sustainability goals: Tier 1 adds additional requirements beyond the mandatory measures, and Tier 2 further increases the requirements.

Similar to the reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen mandatory requirements must be demonstrated through completion of compliance forms and worksheets.

4.6.2.3 Local

a. South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) is the agency responsible for air quality planning and regulation in the South Coast Air Basin. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the South Coast Air Basin. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules, and Plans, which could be applied by lead agencies. The working group met again in 2010 to review the guidance. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach (SCAQMD 2008, 2010):

- Tier 1 – The project is exempt from the California Environmental Quality Act (CEQA).

- Tier 2 – The project is consistent with an applicable regional GHG emissions reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.

- Tier 3 – Project GHG emissions represent an incremental increase below or mitigated to less than Significance Screening Levels, where
    - Residential/Commercial Screening Level
        - Option 1: 3,000 MT CO_2E screening level for all residential/commercial land uses
        - Option 2: Screening level thresholds for land use type acceptable if used consistently by a lead agency:
            - Residential: 3,500 MT CO_2E
            - Commercial: 1,400 MT CO_2E
            - Mixed-Use: 3,000 MT CO_2E
    - 10,000 MT CO_2E is the Permitted Industrial Screening Level

- Tier 4 – The project achieves performance standards, where performance standards may include:
    - Option 1: Percent emission reduction target. SCAQMD has no recommendation regarding this approach at this time.
    - Option 2: The project would implement substantial early implementation of measures identified in the CARB's Scoping Plan. This option has been folded into Option 3.
    - Option 3: SCAQMD Efficiency Targets.
        - 2020 Targets: 4.8 MT CO_2E per service population for project-level analyses or 6.6 MT CO_2E per service population for plan level analyses where service population includes residential and employment populations provided by a project.
        - 2035 Targets: 3.0 MT CO_2E per service population for project-level analyses or 4.1 MT CO_2E per service population for plan level analyses.

- Tier 5 – Offsets along or in combination with the above target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition.

If a project complies with any one of these tiers, its impacts related to the generation of GHG emissions would be considered less than significant.

The SCAQMD's interim thresholds used the EO S-3-05 year 2050 goal as the basis for the Tier 3 screening level. Achieving the EO's objective would contribute to worldwide efforts to cap CO_2 concentrations at 450 parts per million, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the project would include stationary sources of emissions subject

to SCAQMD permits. Notwithstanding, if the project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009, includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

b. Southern California Association of Governments

In September 2020, SCAG adopted Connect SoCal, the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy. The Connect SoCal plan identifies land use strategies that focus on new housing and job growth in areas with a variety of destinations and mobility options that would support and complement the proposed transportation network. The overarching strategy in Connect SoCal is to provide for a plan that allows the southern California region to grow in more compact communities in transit priority areas and priority growth areas; provide neighborhoods with efficient and plentiful public transit; establish abundant and safe opportunities to walk, bike, and pursue other forms of active transportation; and preserve more of the region's remaining natural lands and farmlands (SCAG 2020). The Connect SoCal plan contains transportation projects to help more efficiently distribute population, housing, and employment growth as well as projected development that promotes active transport and reduces GHG emissions.

It should be noted that SCAG is currently in the process of updating this document and recently released the draft Connect SoCal 2024 for review and comment. The final Connect SoCal 2024 document is expected to go to the Regional Council for adoption in April 2024.

c. Existing General Plan (2000)

The City's current 2000 General Plan does not specifically address GHG emissions. Although the City's existing General Plan does not directly address GHG emissions, various elements include policies supporting GHG emissions including the Land Use, Energy, Solid Waste, and Conservation and Open Space elements. The Land Use Element includes policies supporting efficient land use patterns. Energy efficiency is addressed in the Energy Element, waste reduction and recycling policies are addressed in the Solid Waste Element, and open space and water conservation policies are included in the Conservation and Open Space Element. These elements are being updated and consolidated as part of the project and the proposed General Plan update will include measures to address GHG emissions to support compliance with state mandates.

d. Climate Action and Adaptation Plan

The City is developing its first CAAP, which will establish a plan to achieve reductions in GHG emissions from City operations and community activities. The CAAP will also recommend ways that the City can adapt to current and future climate-related impacts, like wildfires, extreme heat events, drought, extreme rain, and flooding.

GHG reduction targets to be addressed in the CAAP are informed by the state targets of 40 percent below 1990 levels by 2030 (per the 2022 California Air Resource Board Scoping Plan and SB 32) and 85 percent below 1990 levels by 2045 (per AB 1279).

The GHG Inventory prepared for the CAAP estimates emissions from 2019 and found the three following categories were responsible for the majority of the City's GHG emissions: on-road transportation, building energy, and solid waste sectors. Additional categories addressed in the CAAP include off-road vehicles and equipment, and other miscellaneous category topics including urban forestry, urban heat island reduction, green infrastructure, green business and jobs, and carbon sequestration.

e. Municipal Code

In Title 1 General Services, Division 13 Irvine Sustainable Community Initiative, Section 1.13.104 Development and implementation of programs and plans, the Code states that the City shall create and implement programs that encourage community members to participate in alternative transportation modes. Such modes include alternative fuel vehicles, reduced emission or zero emission vehicles, mass transit services, carpooling, bicycling, and walking.

f. Zero-Emission Vehicles Transition Plan

The purpose of the Zero-Emission Vehicles Transition Plan (ZEVTP) is to implement the following policies from the City's Strategic Energy Plan: (TLU-1) reduce emissions from city fleet vehicles; (TLU-3.1) create an infrastructure plan for public and private electric vehicle supply equipment (EVSE) needs citywide. Some of the policies the City considered while creating the plan include AB 32, SB 350, and CARB regulations. AB 32 requires that the state and its political subdivisions reduce carbon emissions by 80 percent from their 1990 levels by 2050. SB 350 requires that the state reduce its carbon emissions by 50 percent from their 1990 levels by 2030. The state's aggressive air quality and climate targets include a reduction GHGs of 40 percent below 1990 levels by 2030, an 80 percent reduction below 1990 levels by 2050, and a 50 percent reduction of petroleum use by 2030 (CARB 2021). The ZEVTP describes technological and infrastructural considerations for implementing ZEV technologies throughout the City and an analysis of fleet electrification needs. It also provides projections for EV needs throughout the community, funding opportunities to implement EV technologies throughout the City, and a monitoring plan.

g. Irvine ACHIEVES

Irvine ACHIEVES, a City Resolution adopted in August 2021, defines the City's goal for a zero-carbon local economy based on the latest climate science. It places a strong emphasis on environmental,

economic, and social justice in all climate initiatives, actively involving community stakeholders and prioritizing the protection of vulnerable communities from environmental harm.

h. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the project and will help to reduce and avoid potential impacts related to greenhouse gases:

- PPP GHG-1: Compliance with Title 24, Part 6 – Energy Code
- PPP GHG-2: Compliance with Title 24, Part 11 – California Green Building Standards Code
- PPP GHG-3: Compliance with SCAQMD Regulations
- PPP GHG-4: Compliance with SCAQMD CEQA Thresholds
- PPP GHG-5: Compliance with Irvine Sustainable Community Initiative

Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed Goals, Objectives, Policies, and Implementation Actions are applicable to the analysis of GHGs and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Environmental Protection and Climate Action Element

Goal 3: Reduce greenhouse gas emissions and mitigate climate change impacts in Irvine to create a more sustainable and resilient community.

Objective EPCA-3: Achieve significant reductions in greenhouse gas emissions across all sectors within Irvine by implementing targeted policies and initiatives.

- Policy (a): Promote the transition to renewable energy sources, such as solar, wind, and geothermal, for electricity generation within Irvine.
- Policy (b): Encourage the adoption of energy-efficient technologies and practices in buildings, transportation, and industries to reduce reliance on fossil fuels.
- Policy (c): Prioritize investments in public transit infrastructure, walking and biking paths, and electric vehicle charging stations to reduce emissions from transportation.
- Policy (d): Promote energy conservation measures, such as retrofitting buildings with energy-efficient appliances, insulation, and lighting systems.

Goal 6: Reduce energy consumption and promote energy efficiency in Irvine.

Objective EPCA-6. Achieve significant reductions in per capita energy consumption across residential, commercial, and municipal sectors while promoting the adoption of renewable energy sources and energy-efficient technologies.

- **Policy (a)**: Through the efforts of CALGreen, establish and enforce energy efficiency standards and building codes for new construction and major renovations to improve the energy performance of buildings and reduce energy demand.
- **Policy (b)**: Require energy-efficient building design, insulation, HVAC systems, lighting, and appliances to minimize energy consumption and lower utility costs for residents and businesses.
- **Policy (c)**: Promote the adoption of renewable energy systems, such as solar photovoltaic (PV) panels, wind turbines, and geothermal heat pumps, to generate clean and sustainable electricity for onsite consumption or grid injection.
- **Policy (d)**: Streamline permitting processes and provide incentives, rebates, and financing options to encourage residents, businesses, and municipal facilities to invest in renewable energy installations.
- **Policy (e)**: Implement energy conservation programs and public awareness campaigns to educate residents and businesses about the importance of energy conservation, energy-saving practices, and behavioral changes to reduce energy waste.
- **Policy (f)**: Monitor federal, state, regional, and other local governments, utility companies, Irvine Ranch Water District (IRWD), and other private and public agencies energy programs. Obtain information and technical assistance for energy programs and implement federal and state energy programs.
- **Policy (g)**: Promote energy savings in buildings constructed before 1978.
- **Policy (h)**: Encourage voluntary retrofit energy programs for residential, commercial, and industrial buildings including energy conservation measures.
- **Policy (i)**: Maximize energy efficiency of the City's facilities and operations by use of recycled materials, renewable sources, and conservation measures.

4.6.3 Significance Determination Thresholds

Thresholds used to evaluate impacts to GHG emissions are based on applicable criteria in the CEQA Guidelines (California Code of Regulations Sections 15000-15387), Appendix G. A significant impact would occur if the project would:

1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

State CEQA Guidelines Section 15064.4 states that "the determination of the significance of greenhouse gas emissions (GHG) calls for careful judgment by the lead agency, consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of greenhouse gas emissions resulting from a project." Section 15064.4(b) further states that a lead agency should consider the following non-exclusive factors when assessing the significance of GHG emissions:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;

2. Whether the project emissions exceed a threshold of significance that the lead agency applies to the project; and

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

State CEQA Guidelines Section 15064(h)(1) states that "the lead agency shall consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable." A cumulative impact may be significant when the project's incremental effect, though individually limited, is cumulatively considerable. Therefore, for the purposes of this analysis, the significance of impacts was evaluated using criteria (1) and (3) above. Specifically, the following analysis determines that the Proposed Project would not result in a significant GHG impact because it would result in an overall reduction in GHG emissions per service population, and because it would be consistent with state, regional, and local strategies, goals, and policies to reduce GHG emissions.

4.6.4 Methodology

The City utilized a GHG emissions inventory (see Appendix E) that was developed for a the ongoing CAAP effort, which includes a 2019 GHG emissions inventory. The inventory does not account for the land use and population projections that would result from implementation of the General Plan Update; however, a comprehensive emissions inventory of all City emissions sources provides the best available data to estimate future GHG emissions, despite the General Plan Update growth not being included in the inventory. Similarly, the estimate of the GHG emissions projections for the years 2030, 2035, 2040, and 2045 represent best available data. Methodology for preparation of the CAAP baseline inventory and emission forecasts are detailed in Appendix E and summarized below.

The City prepared a 2019 emissions inventory and emission forecasts, as follows:

- The "Business as Usual" or BAU forecast provides an assessment of how emissions generated by community activities will change over time without further local, state, or federal action.
- The legislative adjusted BAU forecast assumes implementation of adopted legislative and regulatory actions at the state and federal levels that would reduce emissions without any local action, such as regulatory requirements to increase vehicle fuel efficiency and increase renewable energy sources in grid electricity portfolios.

Both the BAU and legislative-adjusted BAU emissions forecasts were based on population and employment from the City's land use database and the California State University, Fullerton, Center for Demographic Research Orange County Projections. As those population projections were from 2019, they do not account for the latest population and employment data incorporating land use changes proposed with the project. Although land use changes associated with the project were not incorporated into the emission projections in the 2019 emission inventory, the emission projections conducted for that effort is the best and most comprehensive available estimate of GHG emissions at this time due to the comprehensive nature of the emission inventory. As detailed in the 2019 inventory, population and employment are expected to increase by 21 and 28 percent, respectively, from 2019 to 2045 (Table 4.6-4). These growth factors were used to forecast emissions for most

sectors. Annual vehicle miles traveled (VMT) projections were developed using the origin-destination method using data from the Irvine Transportation Analysis Model (ITAM) Traffic Model 2021. Annual VMT by 2045 is projected to increase by 3.2 percent from 2019. VMT projections were used to scale emissions from the on-road transportation sector. Table 4.6-4 shows growth in population, employment, and annual VMT from 2019 to 2045.

The City also prepared municipal emissions forecasts to identify emissions associated with the City's municipal operations which would facilitate development of steps to reduce municipal emissions to meet statewide reduction mandates; however, communitywide emissions are the focus for project analysis due to future development having capacity to affect communitywide emissions.

Table 4.6-4
City Community Demographic and Vehicle Miles Traveled Forecasts

Forecast Factor	2019	2030	2035	2040	2045
Population	291,124	317,246	329,119	340,993	352,866
Employment	250,954	280,541	293,989	307,438	320,886
Annual VMT	2,910,428,375	2,950,103,309	2,968,137,370	2,986,171,431	3,004,205,493

SOURCE: Appendix E.
VMT = vehicle miles traveled.
NOTE: These projections are based on 2019 CAAP projections for disclosure of potential annual VMT. Data is independent of the General Plan Update and VMT per capita estimates contained in the VMT Traffic Study and is considered a conservative estimate due to the project VMT study (Appendix H) projecting reductions in VMT per capita with the project.

The BAU forecast is detailed in Table 4.6-5 and the legislative adjusted BAU forecasts are shown in Table 4.6-6. As shown, the largest emissions-generating sectors include on-road transportation and nonresidential and residential building energy.

Table 4.6-5
City Community GHG Emissions Inventory and BAU Forecasts ($MTCO_2E$)

Sector	2019	2030	2035	2040	2045
On-Road Transportation	1,140,206	1,155,749	1,162,814	1,169,879	1,176,944
Nonresidential Building Energy	550,138	549,886	576,246	602,607	628,967
Residential Building Energy	291,405	298,338	309,504	320,670	331,836
Solid Waste	160,626	175,038	181,590	188,141	194,692
Off-Road Vehicles & Equipment	68,756	76,077	82,144	88,210	94,276
Water Supply	30,798	43,202	44,819	46,435	48,052
Wastewater Treatment	5,665	6,159	6,395	6,631	6,866
TOTAL	**2,247,593**	**2,304,450**	**2,363,511**	**2,422,573**	**2,481,634**
Percent Change from 2019 Levels	—	3%	5%	8%	10%
Water Supply	30,798	43,202	44,819	46,435	48,052
Wastewater Treatment	5,665	6,159	6,395	6,631	6,866
TOTAL	**2,247,593**	**2,304,450**	**2,363,511**	**2,422,573**	**2,481,634**
Percent Change from 2019 Levels	—	3%	5%	8%	10%

SOURCE: Appendix E.
NOTES: Total may not sum exactly due to independent rounding.
BAU = business-as-usual; GHG = greenhouse gas; MTCO2e = metric tons of carbon dioxide equivalent.
Note: These projections are based on 2019 CAAP projections for disclosure of estimated GHG emissions at buildout. Emissions estimates are considered a conservative estimate due to the project VMT study (Appendix H) projecting reductions in VMT per capita with the project.

Table 4.6-6
City Community GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (MTCO2e)

Sector	2019	2030	2035	2040	2045
On-Road Transportation	1,140,206	793,628	602,306	410,984	219,662
Nonresidential Building Energy	550,138	271,904	243,504	215,105	186,705
Residential Building Energy	291,405	210,707	203,991	197,276	190,561
Solid Waste	160,626	175,038	181,590	188,141	194,692
Off-Road Vehicles & Equipment	68,756	76,077	82,144	88,210	94,276
Water Supply	30,798	9,973	6,649	3,324	0
Wastewater Treatment	5,665	6,173	6,399	6,625	6,851
TOTAL	**2,247,593**	**1,543,501**	**1,326,583**	**1,109,665**	**892,747**
Percent Change from 2019 Levels	—	-31%	-41%	-51%	-60%

NOTES: Total may not sum exactly due to independent rounding.
BAU = business-as-usual; GHG = greenhouse gas; MTCO2e = metric tons of carbon dioxide equivalent
Note: These projections are based on 2019 CAAP projections for disclosure of estimated GHG emissions at buildout. Emissions estimates are considered a conservative estimate due to the project VMT study (Appendix H) projecting reductions in VMT per capita with the project.

Emission reduction targets established in state law, include:

- Reduce statewide GHG emissions to 40 percent below 1990 levels by 2030 (SB 32, 2016)
- Achieve net zero GHG emissions statewide as soon as possible, but no later than 2045, and maintain net negative emissions thereafter; and ensure that by 2045, statewide anthropogenic greenhouse gas emissions are reduced to at least 85 percent below the 1990 levels. (AB 1279, 2022)

4.6.5 Topic 1: GHG Emissions

Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

4.6.5.1 Impact Analysis

Development under the proposed General Plan Update, which includes new residential uses required to meet the City's RHNA goals, nonresidential uses within the Great Park, nonresidential uses at the same intensities associated with the existing General Plan, and the extension of Ada roadway, would contribute to direct and indirect emissions of GHG from land uses within the City. It is important to note that a general plan does not directly result in physical development without additional approvals. Before any development can occur in the City, it must be analyzed for consistency with the General Plan Update, zoning requirements, and other applicable local and state requirements; comply with the requirements of CEQA (when necessary); and obtain all necessary clearances and permits.

a. Buildout Year 2045 Emissions Forecast

Although the emission inventory and buildout projections detailed in Table 4.6-5 did not account for the General Plan Update, the General Plan Update would allow for residential land uses to occur primarily within areas currently designated for nonresidential development. As a result, due to market conditions and new allowances for residential uses, it is anticipated that buildout of the General Plan Update would result in a shift of existing unbuilt commercial capacity to residential land uses. Adding residential capacity within the City would improve the jobs to housing balance and potentially reduce the number of long commutes that are characteristic of the City's existing employment centers, which could reduce emissions estimates for on-road transportation, the greatest source of GHG emissions in the City. Because the General Plan Update would primarily add residential capacity on sites currently designated for nonresidential use, the 2019 GHG inventory and projections can be considered a reasonable, and potentially conservative, measure of GHG emissions at buildout of the General Plan Update. As detailed in Appendix E, VMT with the General Plan Update is anticipated to decrease by approximately 4 VMT per service population compared to the current General Plan. This demonstrates the General Plan Update would result in a decrease in on-road vehicle emissions compared to the existing plan and the emission projections described in Section 4.6.4.

As shown in Table 4.6-6 and detailed in Appendix E, GHG emissions associated with buildout of the City based on 2019 population and employment forecasts to 2045 would total 892,747 MT CO_2E per year, or 1.33 MT CO_2E per service population. When compared to the baseline 2019 emission inventory, on-road transportation GHG emissions at year 2045, the buildout year for the project, would decrease. The decrease is due to vehicle emission regulations and improved technologies that result in cleaner and more efficient vehicles. Additionally, as discussed previously, implementation of the project is intended to improve the jobs to housing ratio in the City which may reduce work related commutes and further support reductions in on-road vehicle emissions over time.

Development of the project is not forecasted to occur within a specific development timeframe but is assumed to occur over a period of 20 years or more. As such, GHG emissions associated with residential and nonresidential building energy use would decrease over time due to application of California's Building Energy Efficiency Standards (California Code of Regulations Title 24 Part 6, hereafter referred to as "Title 24"). Title 24 standards apply to new residential and nonresidential construction. Therefore, although the projections did not account for the General Plan Update allowances for residential, implementation of the General Plan Update is anticipated to result in a shift from projected commercial growth to more residential growth, based on allowances in the General Plan Update and market trends. The same energy efficiency standards would apply regardless of the land use. While average electricity use in new residential buildings is anticipated to rise (due to an increase in electrical demand associated with electric appliances installed instead of natural gas appliances); emissions from new residential buildings are expected to be lower than they would be under 2019 Title 24 as a result of overall lower building emissions intensities (due to lower emissions factors associated with electricity compared to natural gas).

As detailed in Table 4.6-6, by 2045, there would be a decrease in emissions per service population compared to the existing condition. These emission reductions are based solely on implementation of legislative mandates, and those reductions alone would not be sufficient to meet the statewide reduction targets.

b. City Reduction Measures

As part of the project, the City's existing General Plan is being updated to reflect City goals related to GHG emission reductions. For example, the Land Use Element aims to support a VMT efficient land use pattern, the updated Land Use Element supports placement of mixed-use cores of higher-density commercial and residential development that are supported by pedestrian activity center with access to services, food, childcare, and transit within walking distance of residences and employment. This approach to land use would support VMT efficiency by providing homes near jobs and goods and services.

As detailed in Section 4.16, Transportation, buildout of the project would result in a more efficient land use pattern, resulting in an overall reduction in VMT per service population (see Table 4.13-2). Compared to the VMT projections that would result from buildout of the existing General Plan, the project would reduce VMT per service population by accommodating more housing within three key focus areas, bringing homes in closer proximity to jobs. Addressing the existing jobs/housing imbalance by supporting more housing in the City is anticipated to support long term reductions in VMT per service population which would reduce GHG emissions per service population.

Future housing development facilitated by the project would also be required to meet the mandatory energy requirements of CALGreen and the Energy Code (CCR Title 24, Part 6) in effect at the time of development. These regulations require that new development incorporate design features to capture energy efficiencies associated with building heating, ventilating, and air conditioning mechanical systems, water heating systems, and lighting.

Additionally, each of the focus areas, where changes to land use would be incorporated through the introduction of a Residential and Residential Mixed-Use Overlay Zone Overlay Zone, which would support a VMT efficient land use pattern that could result in overall reduction in GHG emissions due to reduced mobile source emissions.

As previously noted, the project involves the creation of the Environmental Protection and Climate Action (EPCA) Element, which is an entirely new element of the General Plan. This element reflects the City's goal of reducing GHG emissions to achieve carbon neutrality, consistent with state GHG reduction targets. The EPCA Element includes objectives, policies, and implementation actions aimed at achieving significant reductions in GHGs across all sectors within the City by implementing targeted policies and initiatives. Compliance with Consistency with the Energy Code (PPP GHG-1), CAL California Green Building Standards Code (PPP GHG-2) would promote the transition to renewable resources within the City; the adoption of energy-efficient technologies, and practices in buildings, transportation, and industries to reduce reliance on fossil fuels; investments in public transit infrastructure, walking and biking paths, and electric vehicle charging stations to reduce GHGs

c. Typical Emissions for Residential Projects

GHG emissions would be generated during construction and operation of future projects implemented under the General Plan and proposed overlays, within the Great Park, and along Ada roadway. Construction activities would emit GHGs primarily through the combustion of fuels in on- and off-road equipment and vehicles. Operational emissions would likely include mobile, energy

(electricity and natural gas), area (landscape maintenance equipment), water and wastewater, solid waste, and refrigerant sources.

In order to identify the likely construction and operation emissions associated with a typical residential project and a worst-case residential project, the following two modeling scenarios were evaluated:

Hypothetical Project #1: 440 Unit Residential Development

Hypothetical project #1 is a 440-unit mid-rise apartment project. Detailed analysis and modeling results are included as Appendix F-1. GHG emissions for this hypothetical scenario were calculated using the California Emissions Estimator Model (CalEEMod) version 2022.1 (California Air Pollution Control Officers Association [CAPCOA] 2022). The CalEEMod program is a tool used to estimate emissions resulting from land development projects based on California specific emission factors. CalEEMod can estimate the required construction equipment when project specific information is unavailable. GHG emission estimates in CalEEMod are based on the duration of construction phases; construction equipment type, quantity, and usage; grading area; season; and ambient temperature, among other parameters.

The hypothetical 440-unit mid-rise apartment project would result in 2,938 MT annually based on an operational year of 2027 and assuming all model defaults. Based on the SCAQMD CEQA Thresholds (see PPP GHG-4), emissions would fall below the screening level threshold established by SCAQMD and impacts would be less than significant.

Hypothetical Project #2: 1500-Unit Residential Development Project

Hypothetical project #2 is a 1,500-unit mid-rise apartment project. Detailed analysis and modeling results are included as Appendix F-2. GHG emissions for this hypothetical scenario were calculated using the CalEEMod version 2022.1 (CAPCOA 2022). The large project would result in 11,321 MT annually based on the operational year of 2027 with the addition of amortized construction emissions and assuming all model defaults. Based on the SCAQMD CEQA Thresholds (see PPP GHG-4), emissions would exceed the screening level threshold established by SCAQMD and impacts would be potentially significant.

d. Conclusion

While the General Plan includes policy recommendations that would support GHG emission reductions and implementation of the General Plan land use plan would be supportive overall of an efficient land use and transportation, supporting GHG emissions reductions from mobile sources, buildout of the General Plan may still result in emissions that are not consistent with state GHG reduction goals.

Furthermore, the City does not currently have an adopted CAAP. The CAAP that is currently being prepared is intended to demonstrate how the City will reduce GHG emissions in alignment with statewide GHG emission reduction targets. While the draft CAAP is being prepared as a standalone document outside of the project/General Plan Update, the CAAP emission forecasts provide the best available data to estimate emissions through the year 2045, despite the inventory not being

consistent with the buildout year for the General Plan. As a result, at this program level review, impacts related to GHG emissions resulting from General Plan buildout are considered significant and would require mitigation.

4.6.5.2 Significance of Impacts

While project implementation would facilitate per capita GHG emission reductions over time as the EPCA Element and other General Plan Element policies are implemented and the land use plan is built out, without a comprehensive Citywide plan to reduce GHG emissions that can demonstrate how the City would meet statewide emission targets, impacts would be considered significant and would require mitigation.

4.6.5.3 Mitigation

The following mitigation measure is recommended for future development proposals:

GHG-1: Applications for future development, wherein the Director of Community Development or their designee has determined a potential for GHG impacts the City shall evaluate the project to identify the potential for GHG emissions to exceed the SCAQMD thresholds detailed below. If a project may exceed the thresholds, the City shall require a technical assessment evaluating potential project GHG impacts to the City for review and approval. The significance of project-level GHG impacts shall be evaluated using one of the following criteria:

1. In the absence of a City plan to reduce GHG emissions, the evaluation shall be prepared in conformance with SCAQMD methodology for assessing GHG impacts, which consists of the following tiered approach:
   a. Tier 1 – The project is exempt from the California Environmental Quality Act (CEQA).
   b. Tier 2 – The project is consistent with an applicable regional GHG emissions reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
   c. Tier 3 – Project GHG emissions represent an incremental increase below or mitigated to less than a 3,000 MT CO_2E screening level.
   d. Tier 4 – The project achieves performance standards, where performance standards may include a percent emission reduction target or an efficiency target per service population.
   e. Tier 5 – Offsets along or in combination with the above target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition.

If GHG emissions are determined to have the potential to exceed the SCAQMD's recommended thresholds, the City shall require that applicants for new development projects incorporate features to reduce GHG emissions. These identified measures shall be incorporated into all appropriate documents submitted to the City and shall be verified by the City.

4.6.5.4 Significance after Mitigation

Although project implementation would support citywide goals to reduce GHG emissions and the General Plan Update includes goals and polices to support GHG emission reductions, the project does not include a quantified GHG emission reduction strategy to ensure statewide emission goals can be achieved by 2045. Therefore, impacts would remain significant and unavoidable after mitigation.

4.6.6 Topic 2: GHG Plans

Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs?

4.6.6.1 Impact Analysis

Applicable plans, policies, and regulations include statewide GHG emission targets established by AB 32 and SB 32; a longer-term statewide policy goals established by EO S-3-05; the 2017 Scoping Plan (which establishes a specific statewide plan to achieve the 2030 target); the 2020 Scoping Plan (which establishes targets for carbon neutrality by 2045); SCAG's RTP/SCS; regulations regarding increased use renewables for electricity production (RPS); and the California Energy Code.

a. State Plans

The Scoping Plan, approved by CARB on December 12, 2008, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. In the Final Statement of Reasons for the Amendments to the CEQA Guidelines, the California Natural Resources Agency observed that "[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (California Natural Resources Agency 2009). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others. The project would comply with all applicable regulations adopted in furtherance of the Scoping Plan to the extent required by law.

Table 4.6-7 summarizes the project's consistency with 2017 Scoping Plan actions.

Table 4.6-7 Project Consistency with 2017 Scoping Plan		
Actions	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	California Public Utilities Commission, California Energy Commission (CEC), California Air Resources Board (CARB)	**Consistent.** Future development implemented under the project would use energy from Southern California Edison (SCE) which has committed to diversifying the portfolio of energy sources by increasing energy from wind and solar sources. The project would not interfere with or obstruct SCE energy source diversification efforts. Future development would also potentially use renewable energy from the Orange County Power Authority under the Community Choice Aggregation program.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		**Consistent.** Future development implemented under the project would be constructed in compliance with current California Building Code requirements. Currently, new buildings must achieve compliance with 2022 Title 24 Building Energy Efficiency Standards and the 2022 CALGreen requirements. Each version of the California Building Code improves the energy efficiency standards. Future development would be consistent with statewide energy requirements.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles (EVs) by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, Governor's Office of Planning and Research (OPR), Local Agencies	**Consistent.** These strategies are a part of the CARB Mobile Source Strategy. The project would not obstruct or interfere with the implementation of these strategies. As these are CARB enforced standards, vehicles within the City are required to comply with the standards, and would therefore comply with these strategies.
At least 4.2 million zero emission and plug-in hybrid light-duty EVs by 2030		
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		
GHG Phase 2 GHG emission standards for medium-duty/heavy-duty vehicles and trailers, Innovative Clean Transit, Advanced Clean Trucks, Ocean Going Vessels at Berth, Airport Shuttle.		

Table 4.6-7 Project Consistency with 2017 Scoping Plan		
Actions	Responsible Parties	Consistency
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.		**Not Applicable.** This strategy is not specifically applicable to the project. However, the City is served by the Orange County Transit Authority which has plans to convert 100 percent of its fleet to zero-emission technology by 2040.
Last Mile Delivery: New regulation that would result in the use of low NO_X or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5% of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10% in 2025 and remaining flat through 2030.		**Not Applicable.** This strategy is not specifically applicable to the project. This is a CARB Mobile Source Strategy. The project would not obstruct or interfere with CARB efforts to improve last mile delivery emissions.
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		**Consistent.** The project would be consistent with Connect SoCal (see Table 4.6-8), which is the region's SCS, and would therefore be consistent with SB 375. The project would support the goals of these strategies by implementing sustainable infill development that reduces VMT and supports walkable, bikeable, transit-oriented communities.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).		
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g., via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor's Office of Business and Economic Development, California Infrastructure and Economic Development Bank, Department of Finance, California Transportation Commission, Caltrans	**Consistent.** Although this is directed towards CARB and Caltrans, the project would support an increase in the use of transit and active transportation modes.
By 2019, develop pricing policies to support low-GHG transportation (e.g., low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts)	CalSTA, Caltrans, California Transportation Commission, OPR, SGC, CARB	**Not applicable.** This measure is not within the purview of the project.

Table 4.6-7
Project Consistency with 2017 Scoping Plan

Actions	Responsible Parties	Consistency
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, California EPA, California Natural Resources Agency, CARB, Caltrans, CEC, Governor's Office of Business and Economic Development	**Not applicable.** These measures are not within the purview of the project.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.		
Implement the Short-Lived Climate Pollutant Strategy (SLPS) by 2030		
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, California Department of Resources Recycling and Recovery, California Department of Food and Agriculture, California State Water Resource Control Board, Local Air Districts	**Not applicable.** These measures are not within the purview of the project.
50% reduction in black carbon emissions below 2013 levels.		
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.		
Implement the post-2020 Cap-and-Trade Program with declining annual caps.		
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink		
Protect land from conversion through conservation easements and other incentives.	California Natural Resources Agency, Departments Within California Department of Food and Agriculture, California EPA, CARB	**Not applicable.** These measures are not within the purview of the project.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity.		
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments.		
Establish scenario projections to serve as the foundation for the Implementation Plan.		
Implement Forest Carbon Plan	California Natural Resources Agency, California Department of Forestry and Fire Protection, California EPA and Departments Within	
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	
SOURCE: CARB 2017.		

AB 1279, the California Climate Crisis Act, codified the carbon neutrality target as 85 percent below 1990 levels by 2045. The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. Appendix D of the 2022 Scoping Plan includes local actions that jurisdictions may take to reduce GHG emissions in line with AB 1279 goals. The following are key project attributes for residential and mixed-use projects (e.g., housing anticipated as part of the project) that can be used to qualitatively determine consistency with the 2022 Scoping Plan. A summary of the 2022 Scoping Plan Priority Strategies and the project's consistency with those strategies is provided in Table 4.6-8.

Table 4.6-8
Project Consistency with 2022 Scoping Plan Key Prioritization Strategies

Priority Area	Key Project Attribute	Project Consistency
Transportation Electrification	Provides EV charging infrastructure that, at minimum, meets the most ambitious voluntary standard in the California Green Building Standards Code at the time of project approval.	**Consistent.** The project includes the following implementation measure from the Environmental Protection and Climate Action (EPCA) Element: Promote Low-Emission and Electric Vehicles: Establish EV-friendly policies and regulations, such as streamlined permitting processes, dedicated parking spaces, and EV-ready building codes, to facilitate the installation of EV charging infrastructure in new developments and existing buildings.
VMT Reduction	Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).	**Consistent.** The project would support growth near destinations and mobility options. Each of the focus areas would allow residential land use through a Residential and Residential Mixed-Use Overlay Zone which would bring homes closer to job centers. Additionally, the General Plan Update contains several goals, objectives, and policies that promote transit-oriented housing: The following policies in the Housing Element support infill development: HE-C.1: Promote infill development in appropriate areas and HE-C.2: Promote residential development fully served by public services and utilities.
	Does not result in the loss or conversion of natural and working lands.	**Consistent.** The General Plan land use and proposed overlays would focus development within infill areas of the City, retaining natural lands as open space.
	• Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre), or • Is in proximity to existing transit stops (within a half mile), or • Satisfies more detailed and stringent criteria specified in the region's SCS.	**Consistent.** The proposed housing overlays would increase density through the use of housing overlays within the focus areas, which are approximate to transit.

Table 4.6-8 Project Consistency with 2022 Scoping Plan Key Prioritization Strategies		
Priority Area	Key Project Attribute	Project Consistency
	Reduces parking requirements by: • Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or • Providing residential parking supply at a ratio of less than one parking space per dwelling unit; or • For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	**Consistent.** Future development would be subject to allowances for reduced parking standards in exchange for affordable housing.
	At least 20 percent of units included are affordable to lower-income residents.	**Consistent.** Implementation of the City's Housing Element and future residential development facilitated by the project would support provision of affordable housing including providing market rate housing with a 20 percent affordable component.
	Results in no net loss of existing affordable units.	**Consistent.** The 2021-2029 Housing Element RHNA allocation for the City is 23,610 units. To ensure consistency with housing statute, including no-net loss and affirmatively furthering fair housing requirements, the 2021-2029 Housing Element identified adequate sites to accommodate 57,656 new residential units.. The proposed General Plan Update and Zoning Ordinance amendments would facilitate the development of these housing units to ensure no-net-loss.
Building Decarbonization	Uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking.	**Consistent.** The General Plan Update includes EPCA objectives aimed at reducing greenhouse gas emissions. Various City policies and PPPs would also apply to future development, supporting all electric appliances.

b. Regional Plans

The project was evaluated for consistency with the SCS strategies contained in Connect SoCal. As discussed in Table 4.6-9 below, the project would be consistent with applicable Connect SoCal strategies due to the City's focus on adding housing within three key focus areas that are proximate to transit, and support a better jobs to population ratio.

Table 4.6-9 Project Consistency with Connect SoCal Strategies	
Strategy	Project Consistency
Focus Growth Near Destinations and Mobility Options	
• Emphasize land use patterns that facilitate multimodal access to work, educational, and other destinations. • Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets. • Plan for growth near transit investments and support implementation of first/last mile strategies. • Promote the redevelopment of underperforming retail developments and other outmoded nonresidential uses. • Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods. • Encourage design and transportation options that reduce the reliance on, and number of, solo car trips (this could include mixed uses or locating and orienting close to existing destinations). • Identify ways to "right size" parking requirements and promote alternative parking strategies (e.g., shared parking or smart parking).	**Consistent.** The project would be consistent with Connect SoCal's strategies to focus growth near destinations and mobility options. Each of the focus areas are proximate to SCAG transit priority areas. Changes to land use will be incorporated through the introduction of a Residential and Residential Mixed-Use Overlay Zone. Additionally, the General Plan Update Land Use Element contains policies that promote transit-oriented housing.: **Consistent.** The following policies in the Housing Element support Connect SoCal strategies of promoting infill development. • HE-C.1: Promote infill development in appropriate areas. • HE-C.2: Promote residential development fully served by public services and utilities.
Promote Diverse Housing Options	
• Preserve and rehabilitate affordable housing and prevent displacement. • Identify funding opportunities for new workforce and affordable housing development. • Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply. • Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions.	**Consistent:** The project would provide for an increased variety of housing options. The project increases mixed-use development in transit priority areas throughout the City. Below are some of the policies included in the Housing Element which aim to preserve affordable housing: • HE-A.1: Identify residential zones where allowable density can be increased or suitable Floor Area Ratio (FAR) specified for affordable housing, including for extremely low-income households. • HE-A.2: Identify commercial and institutional zones where zoning can be changed to allow for mixed-use and/or higher-density residential development. • HE-B.1: Expedite the entitlement process for affordable housing developments. • HE-D.1: Monitor affordable rental units at risk of converting to market rents and proactively reach out to property owners to discuss options. • HE-D.4: Work with property owners of existing assisted housing developments for lower-income households to determine methods to extend affordability covenants to preserve affordable units, including assistance from the City.

Table 4.6-9 Project Consistency with Connect SoCal Strategies	
Strategy	Project Consistency
	The following Land Use Element policies demonstrate consistency with Connect SoCals goals of providing more affordable housing as well. LU-13.1 • Policy (a): Partner with property owners to preserve existing affordable housing units throughout the City. • Policy (b): Utilize available public funding sources, promote density bonuses, and offer feasible incentives to encourage the development of new affordable housing units.
Leverage Technology Innovations	
• Promote low emission technologies such as neighborhood electric vehicles, shared ride hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space. • Improve access to services through technology, such as telework and telemedicine as well as other incentives such as a mobility wallet. • Identify ways to incorporate micro-power grids in communities, for example solar energy, hydrogen fuel cell power storage and power generation.	**Consistent.** By promoting more diverse and denser mixed-use focus areas, the project would include uses that would support low emission technologies include electric vehicle infrastructure, ridesharing services, bike and scooter sharing, and would improve the street infrastructure to create a more walkable and bikeable community. Strategies related to improved access to services through technology and micro-power grids are not directly applicable to the project. The project would not interfere with SCAG's efforts to promote low emission technologies, improve access to telework and telemedicine, or incorporate micro-power grids in communities.
Support Implementation of Sustainable Policies	
• Pursue funding opportunities to support local sustainable development implementation projects that reduce greenhouse gas emissions. • Support statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations. • Support local jurisdictions in the establishment of Enhanced Infrastructure Financing Districts, Community Revitalization and Investment Authorities, or other tax increment or value capture tools to finance sustainable infrastructure and development projects including parks and open space. • Work with local jurisdictions/communities to identify opportunities and assess barriers for implementing sustainability strategies. • Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region. • Continue to support long range planning efforts by local jurisdictions. • Provide educational opportunities to local decisions makers and staff on new tools, best practices and policies related to implementing the Sustainable Communities Strategy.	**Not Applicable.** These strategies are not directly applicable to the project. The project would not interfere with SCAG's efforts to work with local jurisdictions, communities, and other planning organizations to implement sustainable policies. The project would support the goals of these strategies by implementing sustainable infill development that reduces VMT and supports walkable, bikeable, transit-oriented communities.

Table 4.6-9 Project Consistency with Connect SoCal Strategies	
Strategy	Project Consistency
Promote a Green Region	
• Support development of local climate adaptation and hazard mitigation plans as well as project implementation that improves community resiliency to climate change and natural hazards. • Support local policies for renewable energy production, reduction of urban heat islands and carbon sequestration. • Integrate local food production into the regional landscape. • Promote more resource efficient development focused on conservation, recycling and reclamation. • Preserve, enhance and restore regional wildlife connectivity. • Reduce consumption of resource areas, including agricultural land. • Identify ways to improve access to public park space.	**Consistent.** The EPCA Element includes several goals, objectives, and policies supporting GHG reductions (see above). The project would also encourage improvements in street infrastructure to create a safe walkable and bikeable community, reducing VMT and thereby improving air quality and reducing GHG emissions, and creating shaded pedestrian-friendly environments.
SOURCE: SCAG 2020.	

c. Local Plans

As discussed in Section 4.6.2.3.c, the City's General Plan does not specifically address GHG emissions. However, a draft CAAP is in process and other City sustainability initiatives have been adopted such as the Zero-Emission Vehicles Transition Plan. Implementation of the General Plan would support these policy initiatives by strengthening the City's policy framework around GHG emission reductions as detailed under Topic 1 and Tables 4.6-8 and 4.6-9. Furthermore, the EPCA Element includes objectives, policies, and implementation actions that would further the City's goal of achieving significant reductions in GHGs across all sectors within the City. Therefore, the project would not conflict with an applicable local plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

4.6.6.2 Significance of Impacts

Although the General Plan policy framework includes various objectives and implementation measures that would supports GHG emission reductions, the City is not able to demonstrate whether the policy framework would be sufficient to meet state GHG emission reduction goals. Impacts related to conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs would be considered significant and would require mitigation to identify potential measures that would reduce GHG emissions below the applicable SCAQMD thresholds.

4.6.6.3 Mitigation

See mitigation measure GHG-1 above.

4.6.6.4 Significance after Mitigation

Although project implementation would support citywide goals to reduce GHG emissions, the project does not include a comprehensive strategy to ensure statewide emission goals can be achieved by 2045. Therefore, impacts would remain significant and unavoidable after mitigation.

4.6.7 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for greenhouse gas emissions. The issue of global climate change is inherently a cumulative issue, as GHG emissions of individual projects cannot be shown to have a material effect on global climate change. Impacts would be cumulative in nature if they lead to a substantial increase in GHG emissions, when combined with other development. As discussed, the framework for assessing GHG emissions in the state has been created through AB 32, SB 32, EO S-3-05, the 2017 and 2022 Scoping Plan. If a project demonstrates that it is sufficiently reducing its overall GHG emissions consistent with statewide goals, the project's impact can be determined not to be cumulatively considerable as it would contribute to the state's GHG emission reduction targets. As discussed in Section 4.6.5.2 and 4.6.2.2 above, project implementation would support citywide goals to reduce GHG emissions; however, the project does not include a comprehensive strategy to ensure statewide emission goals can be achieved by 2045. Therefore, cumulative impacts would be considered potentially significant. Despite implementation of mitigation measure GHG-1, which requires project-specific GHG evaluations, it is anticipated that citywide impacts related to GHG emissions would remain significant and unavoidable.

4.7 Hazards and Hazardous Materials

This section analyzes potentially significant impacts related to hazards and hazardous materials that could result from implementation of the project. This analysis relies on secondary source information including but not limited to federal, regional, and City of Irvine (City) planning documents, and hazardous material databases.

4.7.1 Existing Conditions

Hazardous material sites can include any business or operation that has previously used, or currently uses, hazardous materials on a routine basis. It can also include any site where hazardous materials have been spilled. The State Water Resources Control Board (SWRCB) has a general database that indicates where hazardous materials are known to exist. Given Irvine's significant industrial activities and the presence of a decommissioned military base (Marine Corps Air Station [MCAS] El Toro), alongside its proximity to another military base (MCAS Tustin), the City has several identified hazardous waste sites throughout the City. As discussed further in this section, developers and builders are obligated to conduct thorough surveys, identification, and, if needed, remediation of their project sites in accordance with federal, state, and local regulations. Additionally, retail, commercial, and industrial sites involved in handling hazardous materials are also subject to regulation by local, state, and federal laws.

4.7.1.1 Emergency Response

The City's Office of Emergency Management (OEM) coordinates the City's preparedness efforts for hazards that could impact the community, including natural and human-caused disasters. The OEM works with all City departments, having primary responsibility for specific response functions, and ensures department-level plans and procedures are incorporated in the plan and its annexes. The OEM also maintains the Emergency Operations Center, trains emergency response staff and volunteers, and coordinates with Orange County Operational Area, California Office of Emergency Services, and Federal Emergency Management Agency (City of Irvine 2022).

4.7.1.2 Hazardous Materials Sites

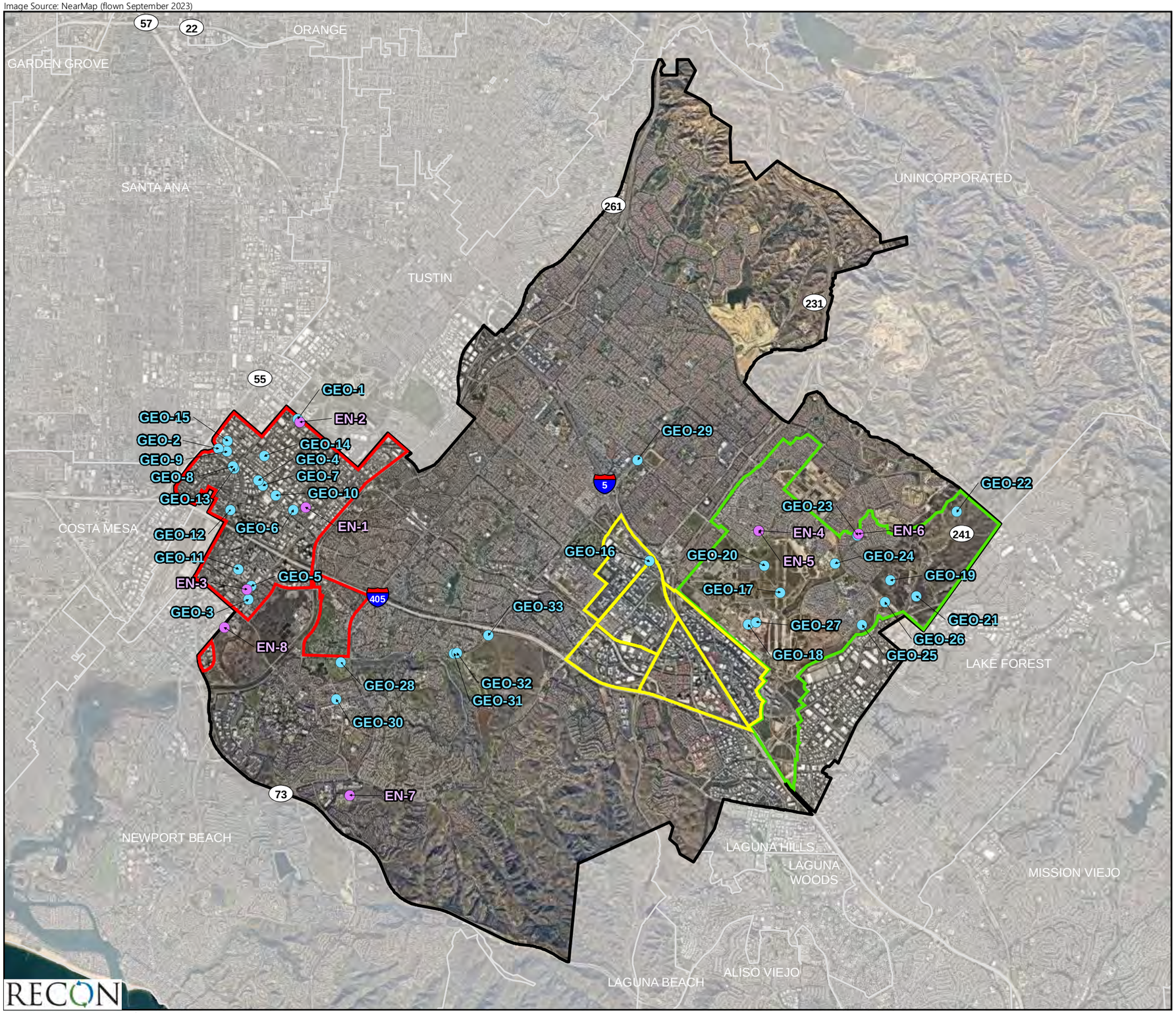
The Hazardous Waste and Substances Sites (Cortese) List is a planning document that provides information about the location of hazardous materials release sites in the state. Government Code Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop, at least annually, an updated Cortese List. The California Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List that is contained in their Envirostor database.

The other main source of information for sites in the Cortese List is the SWRCB's Geotracker Database (Geotracker). "Geotracker" is the SWRCB's Internet-accessible database system used by the state board, regional boards, and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from

underground storage tanks. This system consists of a relational database, online compliance reporting features, a geographical information system interface, and other features that are utilized by the state board, regional boards, local agencies, regulated industry and the public to input, manage, or access compliance and regulatory tracking data.

Figure 4.7-1 presents the location of active Envirostor and Geotracker hazardous materials sites. As shown on Figure 4.7-1, there are several active Envirostor and Geotracker hazardous materials sites within the City. Table 4.7-1 lists each site location and describes the site listing. Additionally, the Irvine Ranch Water District, the Orange County Water District, and the United States Department of the Navy jointly completed the El Toro Groundwater Remediation Project, which is designed to clean up a trichloroethylene (TCE) plume associated with the former Marine Corps Air Station El Toro. The project began full operation in January 2007 and pumps water from the plume for treatment to remove the TCE. The treated water is then used for non-drinking water purposes (Irvine Ranch Water District 2024).

Image Source: NearMap (flown September 2023)



- Irvine City Boundary
- Focus Area 1
- Focus Area 2
- Focus Area 3
- EnviroStor Active Cleanup Sites (ID)
- GeoTracker Active Cleanup Sites (ID)

0 Miles 1.5

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FIGURE 4.7-1
Hazardous Materials Sites

Table 4.7-1 Active Envirostor and Geotracker Hazardous Materials Sites			
Sites	Description	Location	Focus Area
Envirostor			
EN-1 Turner: Derian Ave Irvine	Site Type: Voluntary Cleanup Status: Active	17352 Derian Avenue Irvine, CA 92614	FA1
EN-2 Printronix, Inc.	Site Type: Corrective Action Status: Active	1700 Barranca Parkway Irvine, CA 92606	FA1
EN-3 Xerox Corporation Irvine CRC	Site Type: Corrective Action Status: Active	18691 Jamboree Blvd Irvine, CA 92715	FA1
EN-4 Heritage Fields (former MCAS El Toro)	Site Type: Voluntary Agreement Status: Active	9 Miles N/E of Newport Beach, CA Irvine, CA 92709	FA3
EN-5 El Toro MCAS	Site Type: Closed Base Status: Active	4,741 acres; 9mi NE of Newport Beach, CA Irvine CA 92709	FA3
EN-6 Heritage Hills Irvine (Former MCAS El Toro)	Site Type: Voluntary Agreement Status: Active	Anomaly Area 3 Irvine, CA 92618	FA3
EN-7 Turtle Ridge Elementary School	Site Type: School (The school is located on a site that was historically used for grazing cattle and dry farming). Status: Certified/Operation & Maintenance for methane gas.	6 Federation Way Irvine, CA 92603	City
EN-8 University of California, Irvine (UCI) – UCI Center for Child Health/Medical Office Building and Irvine Campus Medical Complex	Site Type: Voluntary Agreement Status: Active	19172, 19182 and 19262 Jamboree Road Irvine, CA 92612	City
Geotracker Sites			
GEO-1 Printronix	Cleanup Status: Open - Verification Monitoring Loc Case #: T0605900560	1700 Barranca Pkwy Irvine, CA 92714	FA1
GEO-2 Drake Engineering	Clean Up Status: Open - Verification Monitoring Loc Case#: T0605900612	17502 Daimler St Irvine, CA 92714	FA1
GEO-3 Prudential (Former Beckman)	Clean Up Status: Open - Verification Monitoring Loc Case#: T0605901027	19000 Jamboree Rd Irvine, CA 92715	FA1
GEO-4 Orange County South Basin - Baxter Healthcare	Clean Up Status: Open - Remediation Loc Case#: SL188053851	17511 Armstrong Ave Irvine, CA 92714	FA1
GEO-5 Xerox - Irvine	Clean Up Status: Open - Remediation Loc Case#: SL208033858	18691 Jamboree Blvd Irvine, CA	FA1
GEO-6 Former Great Lakes Chemical Corp.	Clean Up Status: Open - Remediation Loc Case#: T0605900416	17461 Derian Ave Irvine, CA 92714	FA1
GEO-7 Edwards Lifesciences LLC (Former Baxter Bentley)	Clean Up Status: Open - Assessment & Interim Remedial Action Loc Case#: SL208624048	17502 Armstrong Ave Irvine, CA	FA1

Table 4.7-1 Active Envirostor and Geotracker Hazardous Materials Sites			
Sites	Description	Location	Focus Area
GEO-8 Exxon #7-3515	Clean Up Status: Open - Remediation Loc Case#: T0605900112	17511 Macarthur Irvine, CA 92614	FA1
GEO-9 Unisys/Memorex	Clean Up Status: Open - Verification Monitoring Loc Case#: T0605901091	1352 Reynolds Ave Irvine, CA 92714	FA1
GEO-10 Deft Chemical Coating, Inc.	Clean Up Status: Open - Site Assessment Loc Case#: T0605900481	17451 Von Karman Ave Irvine, CA 92714	FA1
GEO-11 Sanmina Corp	Clean Up Status: Open - Assessment & Interim Remedial Action Loc Case#: SL208073862	18522 Von Karman Ave Irvine, CA 92612	FA1
GEO-12 Olen Properties	Clean Up Status: Open - Site Assessment Loc Case#: SLT8R1624089	2031 Main Street Irvine, CA	FA1
GEO-13 Chevron #9-6405	Clean Up Status: Open - Site Assessment Loc Case#: T0605901896	17561 Macarthur Irvine, CA 92614	FA1
GEO-14 Orange County South Basin - Former Standard Screw Products	Clean Up Status: Open - Site Assessment Loc Case#: T10000011346	1712 Langley Ave Irvine, CA 92614	FA1
GEO-15 Fidelity National Title Insurance Company	Clean Up Status: Open - Remediation Loc Case#: T10000008477	17352 Daimler Irvine, CA 92614	FA1
GEO-16 Unocal COP #4773	Clean Up Status: Open - Eligible for Closure Loc Case#: T0605901413	14886 Sand Canyon Irvine, CA 92618	FA2
GEO-17 El Toro MCAS - U S Marine Corps Air Station EL TORO, IRP program and some small Petroleum Sites	Clean Up Status: Open - Assessment & Interim Remedial Action Loc Case#: T0605964530	Trabuco and Sand Canyon Irvine, CA 92709	FA3
GEO-18 El Toro MCAS - U S Marine Corps Air Station El Toro OU-2A IRP-24/OU-1 IRP-18 VOC Groundwater Plume	Clean Up Status: Open - Remediation Loc Case#: SLT8R2654056	7040 Trabuco Road Irvine, CA 92618	FA3
GEO-19 El Toro MCAS - U S Marine Corps Air Station El Toro - OU-2B - IRP-17 Communications Station Landfill	Clean Up Status: Open - Verification Monitoring Loc Case#: DOD100139500	Irvine, CA 92709	FA3
GEO-20 El Toro MCAS - U S Marine Corps Air Station El Toro- OU-3 - IRP-16 Crash Crew Pit No. 2	Clean Up Status: Open - Remediation Loc Case#: DOD100168600	Irvine, CA 92709	FA3
GEO-21 El Toro MCAS - U S Marine Corps Air Station El Toro - OU-2B - IRP-2 Magazine Road Landfill	Clean Up Status: Open - Verification Monitoring Loc Case#: DOD100131200	Irvine, CA 92709	FA3
GEO-22	Clean Up Status: Open - Verification Monitoring	Irvine, CA 92709	FA3

Table 4.7-1 Active Envirostor and Geotracker Hazardous Materials Sites			
Sites	Description	Location	Focus Area
El Toro MCAS - Us Marine Corps Air Station El Toro- OU-3 - IRP-1 Explosive Ordinance Disposal Range	Loc Case#: DOD100136000		
GEO-23 El Toro MCAS - US Marine Corps Air Station El Toro - OU-2C - Anomaly Area 3 landfill	Clean Up Status: Open - Remediation Loc Case#: DOD100131500	Irvine, CA 92709	FA3
GEO-24 El Toro MCAS - U S Marine Corps Air Station El Toro - OU-2C - IRP-3 Original landfill	Clean Up Status: Open - Verification Monitoring Loc Case#: DOD100131300	Irvine, CA 92709	FA3
GEO-25 El Toro MCAS - U S Marine Corps Air Station El Toro - OU-2C - IRP-5 Perimeter Road Landfill	Clean Up Status: Open - Verification Monitoring Loc Case#: DOD100131400	Irvine, CA 92709	FA3
GEO-26 R&S Soil Products, Inc., Composting Fac	Clean Up Status: Open - Verification Monitoring Loc Case#: T10000009587	1 Magazine Road Irvine, CA 92618	FA3
GEO-27 TVI EcoCentre	Clean Up Status: Open - Operating Loc Case#: T10000017448	8065 Marine Way Irvine, CA 92650	FA3
GEO-28 Treasure Farm Windmachine 208	Clean Up Status: Open - Operating Loc Case#: T0605901750	15401 Culver Dr Irvine, CA 92715	City
GEO-29 Treasure Farm Windmachine 227	Clean Up Status: Open - Site Assessment Loc Case#: T0605901751	14503 Trabuco Rd Irvine, CA 92720	City
GEO-30 Campus Cleaners	Clean Up Status: Open - Site Assessment Loc Case#: SLT8R0703954	4515-A Campus Ave Irvine, CA	City
GEO-31 View Cleaners	Clean Up Status: Open - Site Assessment Loc Case#: SLT8R0753958	5313 University Ave Irvine, CA 92612	City
GEO-32 Mobil #18-824	Clean Up Status: Open - Remediation Loc Case#: T0605900193	5333 University Irvine, CA 92612	City
GEO-33 Michelson WWRF	Clean Up Status: Active Loc Case#: NPD100051948	3512 Michelson Dr Irvine, CA 92612	City
SOURCES: California Department of Toxic Substances Control 2024; California State Water Resources Control Board 2024			

4.7.1.3 Airport Hazards

There are no airports located within the City's jurisdictional boundaries; however, the following airports are located near the City:

- John Wayne Airport (SNA) is located immediately adjacent to the southwestern boundary of the City within unincorporated Orange County.
- Fullerton Municipal Airport (FMA) is located approximately 14.5 miles northwest of the City.
- Long Beach Airport (LGB) is located approximately 17.5 miles west by northwest of the City.
- Ontario International Airport (ONT) is located approximately 20.5 miles north by northeast of the City.
- Los Angeles International Airport (LAX) is located approximately 33.9 miles west by northwest of the City.
- In addition to the public airports that operate in the region, Joint Forces Training Base Los Alamitos is also located approximately 12.0 miles west by northwest of the City. This facility is actively used for military training purposes; however, the frequency of flights is anticipated to be less than the amount from airports like John Wayne.

There are numerous flight paths (commercial and general aviation) that cross over the City. The City's 2020 Local Hazard Mitigation Plan (LHMP), which is designed to identify the City's hazards (including aircraft hazards), estimates the probability of future occurrences, and sets goals to mitigate potential risks associated with aircraft accidents and incidents. Title 49 of the Code of Federal Regulations Part 830, §830.2 distinguishes between an aircraft accident and aircraft incident as follows:

An "accident" is an occurrence associated with the operation of an aircraft that:

- Occurs between when the first boarding person enters the aircraft – with intention of flight – and the last person disembarks.
- Results in death or serious injury, or
- Causes substantial damage to the aircraft.

An "incident" is an occurrence – other than an accident (no intention of flight) – associated with the operation of an aircraft that affects or could affect the safety of operations.

4.7.1.4 Hazardous Materials Release

Hazardous materials release refers to a hazard event whereby harmful concentrations of hazardous or toxic substances are released into the environment. This occurs when storage containers of hazardous materials leak or fail. This can happen due to industrial accidents, vehicle crashes, as a direct result of other disasters (e.g., a flood or earthquake), or as a deliberate act.

The threat that hazardous materials pose to human health depends on the type of material, frequency, and duration of exposure, and whether chemicals are inhaled, penetrate skin, or are ingested, among other factors. Exposure to hazardous materials can result in short- or long-term effects, including major damage to organs and systems in the body, or death. Hazardous waste is any material with properties that make it dangerous or potentially harmful to human health or the environment. Hazardous materials can also cause health risks if they contaminate soil, groundwater, and air, potentially posing a threat long after the initial release.

The City's 2020 LHMP identifies two key potential sources of hazardous materials release: The San Joaquin Landfill (closed) and Lane Hill Landfill (closed), both of which are in the northwest part of the City close to University of California, Irvine.

4.7.2 Applicable Regulatory Requirements

4.7.2.1 Federal Regulations

a. Comprehensive Environmental Response, Compensation, and Liability Act

Discovery of environmental health damage from disposal sites prompted the U.S. Congress to pass the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund). The purpose of the CERCLA is to identify and clean up chemically contaminated sites that pose a significant environmental health threat. The Hazard Ranking System is used to determine whether a site should be placed on the National Priorities List for cleanup activities.

b. Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) pertain primarily to emergency management of accidental releases. It requires formation of state and local emergency planning committees, which are responsible for collecting, material handling, and transporting data for use as a basis for planning. Chemical inventory data are made available to the community at large under the "right-to-know" provision of the law. In addition, SARA also requires annual reporting of continuous emissions and accidental releases of specified compounds. These annual submissions are compiled into a nationwide Toxics Release Inventory.

c. Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) Subtitle C addresses hazardous waste generation, handling, transportation, storage, treatment, and disposal. It includes requirements for a system that uses hazardous waste manifests to track the movement of waste from its site of generation to its ultimate disposition. The 1984 amendments to the RCRA created a national priority for waste minimization. Subtitle D establishes national minimum requirements for solid waste disposal sites and practices. It requires states to develop plans for the management of wastes within their jurisdictions. Subtitle I requires monitoring and containment systems for underground storage tanks that hold hazardous materials. Owners of tanks must demonstrate financial assurance for the cleanup of a potential leaking tank.

d. Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act is the statutory basis for the extensive body of regulations aimed at ensuring the safe transport of hazardous materials on water, rail, highways, in the sky, or in pipelines. It includes provisions for materials classification, packaging, marking, labeling, placarding, and shipping documentation.

e. Rule 29 of the Code of Federal Regulations Part 1926

Federal law requires compliance with Rule 29 of the Code of Federal Regulations (CFR) Part 1926. Prior to site demolition activities, building materials shall be carefully assessed for the presence of lead-based paint, and its removal, where necessary, must comply with state and federal regulations, including Occupational Safety and Health Administration (OSHA) 29 CFR Part 1926. The OSHA rule establishes standards for occupational health and environmental controls for lead exposure. The standard also includes requirements addressing exposure assessment, methods of compliance, respiratory protection, protective clothing and equipment, hygiene facilities and practices, medical surveillance, medical removal protection, employee information and training, signs, recordkeeping, and observation of monitoring. Furthermore, the requirements of California Code of Regulations (CCR), Title 17, Division 1, Chapter 8, identify procedures that must be followed for accreditation, certification, and work practices for lead-based paint and lead hazards. Section 36100 thereof specifically sets forth requirements for lead-based paint abatement in public and residential buildings.

f. Federal Air Regulations, Part 77

The Federal Aviation Administration (FAA) is charged with the review of construction activities that occur in the vicinity of airports. Their role in reviewing these activities is to ensure that new structures do not result in a hazard to navigation and thus derogate the safety of the National Airspace System. The regulations contained in Federal Air Regulations (FAR) Part 77 are designed to ensure that no hazards are allowed to exist that would endanger the public. The FAA, through FAR Part 77, established a method of identifying surfaces that should be free from obstructions in order to maintain sufficient airspace around airports. FAR Part 77, in effect, identifies the maximum height at which a structure would be considered an obstacle at any given point around an airport. In addition, Part 77 establishes standards for determining whether objects constructed near airports will be considered obstructions in navigable airspace, sets forth notice requirements of certain types of proposed construction or alterations, and provides for aeronautical studies to determine the potential impacts of a structure on the flight of aircraft through navigable airspace.

4.7.2.2 State Regulations

a. California Code of Regulations

Most state and federal regulations and requirements that apply to generators of hazardous waste are spelled out in CCR, Title 22, Division 4.5. Title 22 contains the detailed compliance requirements for hazardous waste generators, transporters, treatment, storage, and disposal facilities. Because California is a fully authorized state according to RCRA, most RCRA regulations (those contained in 40 CFR 260, et seq.) have been duplicated and integrated into Title 22. However, because the DTSC regulates hazardous waste more stringently than the U.S. Environmental Protection Agency (U.S. EPA), the integration of California and federal hazardous waste regulations that make up Title 22 do not contain as many exemptions or exclusions as does 40 CFR 260. As with the California Health and Safety Code, Title 22 also regulates a wider range of waste types and waste management activities than do the RCRA regulations in 40 CFR 260. To aid the regulated community, California compiled the hazardous materials, waste and toxics-related regulations contained in CCR, Titles 3, 8, 13, 17, 19,

22, 23, 24, and 27 into one consolidated CCR, Title 26 "Toxics." However, the California hazardous waste regulations are still commonly referred to as Title 22. For the purposes of clarity, because of the extensive reach of Title 22 and Title 26, many common household products sold in grocery stores and home improvement warehouses qualify as hazardous materials. These items include household cleaners, detergents, paint, motor oil, lubricants, glues, pesticides, etc. The term "hazardous materials" is also defined to include many on-site materials as well, such as lubricants, fuel, etc.

b. Cortese List: Section 65962.5(a)

Government Code Section 65962.5 requires the CalEPA to develop, at least annually, an updated Hazardous Waste and Substances Sites list (Cortese List). The Cortese List is a planning document used by the state, local agencies, and developers to comply with California Environmental Quality Act (CEQA) requirements in providing information about the location of hazardous materials release sites. Release sites include or hazardous materials release sites may include the following:

- All hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.
- All land designated as hazardous waste property or border zone property pursuant to Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the Health and Safety Code.
- All information received by the DTSC pursuant to Section 25242 of the Health and Safety Code on hazardous waste disposals on public land.
- All sites listed pursuant to Section 25356 of the Health and Safety Code.
- All sites included in the Abandoned Site Assessment Program.

The California DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information for the Cortese List.

c. The California Hazardous Material Management Act

The Hazardous Materials Management Act requires that businesses handling or storing certain amounts of hazardous materials prepare a Hazardous Materials Business Emergency Plan (HMBEP), which includes an inventory of hazardous materials stored on-site (above specified quantities), an emergency response plan, and an employee training program. An HMBEP is a written set of procedures and information created to help minimize the effects and extent of a release or threatened release of a hazardous material. The intent of the HMBEP is to satisfy federal and state community right-to-know laws and to provide detailed information for use by emergency responders.

Per the California Health and Safety Code, Chapter 6.95, Section 25500–25532, an HMBEP must be submitted by any business that handles a hazardous material or a mixture containing a hazardous material in quantities equal to, or greater than:

- A total weight of 500 pounds or a total volume of 55 gallons;
- 200 cubic feet of a compressed gas at standard temperature and pressure; and/or
- A radioactive material handled in quantities for which an emergency plan is required pursuant to Parts 30, 40, or 70 of Chapter 10, Title 10, CFR, or equal to or greater than the amounts specified above, whichever amount is less.

An HMBEP must be prepared prior to facility operation. Any business subject to HMBEP requirements shall submit an amendment of its HMBEP to the local implementing agency when there is:

- A 100 percent or more increase in the quantity of a previously disclosed hazardous material;
- Any handling of a previously undisclosed hazardous material subject to the inventory requirements;
- Change of business address;
- Change of ownership;
- Change of business name; and/or
- Change of contact information.

In addition, any business subject to HMBEP requirements is also required to certify the inventory of hazardous materials handled at the business every year. Businesses are also required to review their HMBEP at least once every three years to determine if a revision is necessary. Once the review has been conducted, the business must certify in writing to the local implementing agency that a review has been completed and necessary changes were made. For businesses within the City, HMBEPs are submitted to and approved by the Orange County Health Care Agency.

d. The California Hazardous Waste Control Law

The Hazardous Waste Control Law (HWCL) is the primary hazardous waste statute in the state of California. The HWCL requires a hazardous waste generator, which stores or accumulates hazardous waste for periods greater than 90 days at an on-site facility or for periods greater than 144 hours at an off-site or transfer facility, which treats, or transports hazardous waste, to obtain a permit to conduct such activities. The HWCL implements RCRA as a "cradle-to-grave" waste management system in the state of California. HWCL specifies that generators have the primary duty to determine whether their wastes are hazardous and to ensure their proper management. The HWCL also establishes criteria for the reuse and recycling of hazardous wastes used or reused as raw materials. The HWCL exceeds federal requirements by mandating source reduction planning and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates the number of types of wastes and waste management activities that are not covered by federal law with RCRA.

e. State Aeronautics Act (Public Utilities Code Section 21670, et seq.)

The Public Utilities Code establishes the requirement for the creation of airport land use commissions for every county in which there is located an airport that is served by a scheduled airline. Additionally, these sections of the Public Utilities Code mandate the preparation of Comprehensive Land Use

Plans to provide for the orderly growth of each public airport and the area surrounding the airport. The purpose of Comprehensive Land Use Plans includes the protection of the general welfare of inhabitants within the vicinity of the airport and the general public.

f. California Emergency Services Act

Government Code 8550–8692 provides for the assignment of functions to be performed by various agencies during an emergency so that the most effective use may be made of all manpower, resources, and facilities for dealing with any emergency that may occur. The coordination of all emergency services is recognized by the state to mitigate the effects of natural, humanmade, or war-caused emergencies which result in conditions of disaster or extreme peril to life, property, and the resources of the state, and generally, to protect the health and safety and preserve the lives and property of the people of the state.

g. State Fire Plan

The state Board of Forestry and the California Department of Forestry and Fire Protection have drafted a comprehensive update of the State Fire Plan for wildland fire protection in California. The planning process defines a level of service measurement, considers assets at risk, incorporates the cooperative interdependent relationships of wildland fire protection providers, provides for public stakeholder involvement, and creates a fiscal framework for policy analysis.

h. Title 22, Division 4.5 of the California Code of Regulations

During site decommissioning and demolition activities, hazardous wastes must be managed in accordance with the requirements of Title 22, Division 4.5 of the California Code of Regulations. Title 22 sets forth the requirements with which hazardous-waste generators, transporters, and owners or operators of treatment, storage, or disposal facilities must comply. These regulations include the requirements for packaging, storage, labeling, reporting, and general management of hazardous waste prior to shipment. In addition, the regulations identify standards applicable to transporters of hazardous waste such as the requirements for transporting shipments of hazardous waste, manifesting, vehicle registration, and emergency accidental discharges during transportation.

i. Title 8 of the California Code of Regulations, Section 1529

During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the CCR, Section 1529, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practices by workers exposed to asbestos. Asbestos contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.

4.7.2.3 Regional Regulations

a. Certified Union Program Agency for Orange County

The Environmental Health Division was designated as the Certified Union Program Agency (CUPA) for the County of Orange in 1997 by the State Secretary for Environmental Protection. CUPA serves as an administrative agency that coordinates regulation of hazardous materials and waste in Orange County. The CUPA oversees the following six agencies: Hazardous Materials Disclosure, Business Emergency Plan, Hazardous Waste, Underground Storage Tank, Aboveground Petroleum Storage Tank, and California Accidental Release Prevention. These agencies have developed specific plans for identifying and managing different types of hazardous waste, described in more detail below.

Hazardous Materials Disclosure and Business Emergency Plan: The HMBEP program requires businesses that handle hazardous materials such as hazardous waste or substances at reportable quantities to submit an HMBEP to the California Environmental Reporting System. The CUPA then verifies this information and provides it to agencies that are responsible for the protection of public health and the environment.

Hazardous Waste: The Hazardous Waste Inspection Program is overseen by the Environmental Health Division throughout Orange County. This program aims to manage the proper handling, recycling, treatment, storage, and disposal of all hazardous wastes generated by Orange County businesses. Through this program, specialists inspect facilities that generate hazardous waste, evaluate industries that generate hazardous waste, investigate reports of illegal hazardous waste disposal, and respond to emergency spills of hazardous chemicals. Additionally, specialists engage in public education programs that inform industries and residents about regulations relating to proper hazardous waste disposal.

Underground Storage Tank: The Underground Storage Tank (UST) Inspection Program serves to ensure that hazardous materials stored in underground tanks are not released into the environment, causing potential pollution of ground or surface waters. The UST inspection program is overseen by the Orange County Health Care Agency (OCHCA), Environmental Health Division in most cities of Orange County, except Anaheim and Orange. Environmental Health is responsible for implementing and enforcing underground storage tank codes. Specialists from Environmental Health inspect and monitor equipment and compliance of UST systems to ensure that they comply with relevant laws and regulations. The Environmental Health Division also aims to educate and help tank owners and operators navigate regulatory requirements.

Aboveground Petroleum Storage Tank: The Aboveground Petroleum Storage Act (APSA) defines "petroleum" as crude oil, or any fraction thereof, which is liquid at 60 degrees Fahrenheit temperature and 14.7 pounds per square inch absolute pressure. The Act applies to businesses with a total storage capacity at one site of more than 1,320 gallons of petroleum products in tanks or containers larger than 55 gallons. The OCHCA is the CUPA responsible for inspections of these storage facilities in all of Orange County, except for Anaheim, which is regulated by the City of Anaheim Hazardous Materials Section. Tank facilities regulated under APSA are also regulated by the U.S. EPA Region 9 Oil Program Clean Water Act Compliance Office. A tank facility may be regulated and inspected by just the EPA or both the EPA and Orange County. Facilities regulated under the APSA or the federal

Spill Prevention, Control, and Countermeasure (SPCC) Rule must prepare and implement a SPCC Plan. Regulated facilities fall into three different categories with corresponding required plans depending on the storage capacity present at the facility.

b. California Accidental Release Program (CalARP)

The California Accidental Release Program (CalARP) is administered in the City by the Orange County Fire Authority (OCFA). OCFA monitors and regulates identified industries in the City that have a stationary source of hazardous materials. The potential hazardous threat of CalARP facilities is determined by completing a land use compatibility analysis. The regulatory responsibilities of CalARP, including the development and implementation of a Risk Management Plan, are found in Title 19, Division2, Chapter 4.5 of the CCRs.

c. Orange County and Orange County Fire Authority Local Hazard Mitigation Plan

The federal Disaster Mitigation Act of 2000 requires all local governments to create a disaster plan in order to qualify for hazard mitigation funding. In 2010, Orange County partnered with the OCFA to produce a Multi-Jurisdiction Hazard Mitigation Plan. This plan outlines measures to mitigate natural hazards in County unincorporated areas, as well as fire hazards in the OCFA service area and County and OCFA facilities. The mission of the plan is to promote a policy that protects residents, facilities, infrastructure, key resources, property, and the environment from natural hazards, focusing on unincorporated areas of Orange County. Additionally, the plan aims to increase public awareness and outline resources for risk reduction and loss prevention.

d. South Coast Air Quality Management District Rule 1403

Prior to site demolition activities, building materials must be carefully assessed for the presence of asbestos-containing materials (ACM), and removal of this material, where necessary, must comply with state and federal regulations, including South Coast Air Quality Management District (SCAQMD) Rule 1403, which specifies work practices with the goal of minimizing asbestos emissions during building demolition and renovation activities, including the removal and associated disturbance of ACMs. The requirements for demolition and renovation activities include asbestos surveying; notification; ACM removal procedures and time schedules; ACM handling and cleanup procedures; and storage, disposal, and landfill disposal requirements for asbestos-containing waste materials.

e. Soil and/or Groundwater Contamination

Evidence of soil and/or groundwater contamination (e.g., chemical odors, staining) unrelated to above/underground storage tank releases may be encountered during site development. The appropriate agency (e.g., OCHCA, DTSC, or the Regional Water Quality Board) shall be notified if these conditions are encountered during construction or grading activities. With their oversight, an environmental site assessment would be completed and a determination shall be made as to whether a cleanup is required. Cleanup activities would be consistent with all applicable state and local rules, regulations, and laws. A cleanup would not be considered complete until confirmatory samples of soil and/or groundwater reveal levels of contamination below the standards established by the oversight agency. Alternatively, a risk assessment may be prepared for the site to determine that

there are no human or environmental risks associated with leaving contamination below specific levels in place. Construction in the impacted area shall not proceed until a "no further action" clearance letter or similar determination is issued by the oversight agency, or until a land use covenant is implemented.

4.7.2.4 Local Regulations

a. Existing General Plan (2000)

The current Safety Element provides guidelines for the protection of the community from hazards. Subsequent guidelines from the Board and Office of Planning and Research General Plan Guidelines will necessitate revisions to the Irvine General Plan Safety Element, which will be reflected in the General Plan Update.

The existing General Plan Safety Element includes the following objectives and policies related to hazards:

Safety Element

Objective J-1: Hazard Occurrence. Identify actions that the City, in concert with other jurisdictions, must take to reduce the probability of hazard occurrence.

- Policy (a): Regulate the type and intensity of development in areas associated with potential land use and air operational hazards through land use controls.
- Policy (c): Establish criteria for land development in hillside areas with emphasis on fire retardant materials, minimization of exposure risk to wildfire and adjacent structure fires, provision of access for fire fighting personnel and equipment, and removal of combustible vegetation.
- Policy (d): Use the most current available Airport Environs Land Use Plan (AELUP) as a planning resource for evaluating aircraft operations, land use compatibility and land use intensity.
- Policy (e): Require development proposals to be reviewed by the Orange County Fire Authority to ensure adequate fire protection and precautions occur.

Objective J-2: Disaster Response. Identify actions that the City, in conjunction with other jurisdictions, must take to reduce the severity of disasters.

- Policy (a): Ensure that developments will be properly served by police and fire service.
- Policy (b): Ensure that each development will have adequate emergency ingress and egress.
- Policy (c): Phase the timing of development in relation to the City's ability to provide police and fire service.
- Policy (d): Continue to maintain and implement the City of Irvine's Emergency Plan.

Seismic Element

Objective D-1: Potential Hazards. Take potential environmental hazards into account in the General Plan.

- Policy (a): Identify the locations of potential seismic hazards to minimize the effects of the potential hazard through special development constraints. Conduct a research program to develop more refined boundaries for seismic response areas, particularly for Seismic Response Area 1.

Objective D-2: Response to Hazards. Require appropriate measures to protect public health and safety and to respond to seismic hazards in all public and private developments.

- Policy (g): Require a detailed geological and soils study as needed, in accordance with the requirements of the City's Subdivision Ordinance, before approving development.
- Policy (h): Continue to require structures to conform to the seismic design requirements found in the Uniform Building Code.
- Policy (i): Ensure that the most recent adopted seismic standards are used for new construction.

b. Local Hazard Mitigation Plan

The City's LHMP (2020) is designed to identify the City's hazards, estimate the probability of future occurrences, and set goals to mitigate potential risks to reduce or eliminate long-term natural or man-made hazard risks to human life and property for the City and its residents. The 2020 LHMP is an update to the City's 2011 LHMP.

c. Emergency Operations Plan

The purpose of the City's Emergency Operations Plan (2020) is to establish a strategic response plan if an emergency occurs. The plan provides an overview of concepts and components of the City's emergency management organization within the Standardized Emergency Management System and describes responsibility of federal, state, and county entities to protect life and property.

d. Municipal Code

Title 4 (Public Safety), Division 9 (Emergency Services)

Title 4 (Public Safety), Division 9 (Emergency Services) of the Municipal Code provides guidance for the preparation and carrying out of plans for the protection of persons and property within this City in the event of an emergency; the direction of the emergency organization; and the coordination of the emergency functions of this City with all other public agencies, corporations, organizations, and affected private persons.

Title 4 (Public Safety), Division 17 (Hazardous Materials)

Title 4 (Public Safety), Division 17 (Hazardous Materials) of the Municipal Code outlines the system of disclosure that is required to provide that information essential to firefighters, health officials, planners, elected officials, and other emergency service personnel in meeting their responsibilities for the health and welfare of the community in such a fashion that trade secrecy is not abridged. This division also implements the community's right and need for basic information on the use and disposal of hazardous materials in the City and provides for an orderly system for the provision of such information.

Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code)

As outlined in Section 5.10-114 (Hazardous Conditions), of the Grading Code, hazardous conditions exist when the state of any natural ground, natural slopes, excavation, fill or drainage device, any of which exist on public or private property, is a menace to life or limb, or a danger to public safety, or endangers or adversely affects the safety, usability or stability of adjacent property, structures, or public or private facilities. This section of the City's Municipal Code outlines the authority given to the Chief Building Official for examining or causing to be examined every condition reported as hazardous as set forth in subsection A of this section. This section also outlines the provisions that may be undertaken in case of any such hazard.

Title 5 (Planning), Division 9 (Building Regulations) Chapter 1 (Adoption of Building and Fire Code)

Adoption of Building Regulations of the City's Municipal Code contains Section 5.9.102 Adoption of Fire Code, which states that the provisions of the California Fire code as amended by the provisions of this Division of the Municipal Code shall constitute the Fire Code Regulations of the City.

e. Zoning Ordinance

Chapter 2-13 (Hazardous Waste Facility Procedure)

This chapter of the Zoning Ordinance establishes uniform standards, land use regulations and a permit process for controlling the location, design, maintenance and safety of off-site hazardous waste facilities. This chapter also outlines the environmental review process for such facilities, including the requirement for an analysis of all anticipated air quality impacts associated with the project and proposed mitigation to ensure no degradation of air quality in the area.

Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District)

Section 5-8-4.A.2 (Compatibility with Surrounding Land Uses) of Chapter 5-8 states that applicants for new residential and/or residential mixed use are required to submit data as determined by the Director of Community Development to evaluate compatibility uses with respect to issues including but not limited to noise, odors, truck traffic and deliveries, hazardous materials handling/storage, air emissions, soil/groundwater contamination, and John Wayne Airport compatibility.

Section 5-8-4.A.4 (Air Quality Standards) of Chapter 5-8 outlines the required standards for residential and residential mixed-use projects, including:

- Use, service and maintenance of construction equipment, including the use of Tier 3 or higher emissions standards for off-road construction equipment and restrictions on non-essential idling.
- Preparation of a dust control plan for ground-disturbing activities, which would include measures for fugitive dust control under Rule 403 of the South Coast Air Quality Management District.
- Limitations and restrictions on coatings and solvents that contain volatile organic compounds.
- Requirement for the installation of Minimum Efficiency Reporting Value (MERV) filters of MERV 14 or better in the intake of residential ventilation systems for residences located within 500 feet of Interstate 405.
- Requirement for the submittal of a Health Risk Assessment (HRA) for residential or residential mixed-use projects located within the distances to industrial uses outlined in Section 5-8-4.A.4.
- Requirement for the submittal of a HRA for residential or residential mixed-use projects located within 1,000 feet of an industrial facility that emits toxic air contaminants.
- Requirement for the submittal of an odor assessment for all residential projects located within 1,000 feet of an industrial facility that emits substantial odors.

Section 5-8-4.C (Airport Restrictions) of Chapter 5-8 outlines the provisions for development within the jurisdiction of the Airport Land Use Commission, including: building height limitations in accordance with the Orange County Environs Land Use Plan standards and Federal Aviation Administration Part 77 Imaginary Surfaces for John Wayne Airport; the prohibition of residential land uses within Safety Zone 3; and sound attenuation standards for residential and park uses.

f. Planning Commission Resolution No. 09.-2968

Standard Conditions are adopted by Planning Commission Resolution No. 09-2968. These conditions assist staff in applying standardized wording for frequently used conditions of approval for discretionary and subdivision applications. Standard conditions are applied on a case-by-case basis depending upon the specifics of the application. Companion conditions are cross-referenced and are required to be used together. The following standard conditions related to hazards and hazardous materials apply:

Standard Condition 2.19 (Open Space Fuel Modification)

Prior to issuance of precise grading permits for any lots adjacent to open space, the applicant shall submit a fuel modification plan prepared to the satisfaction of the Director of Community Development for review and approval, in consultation with the Director of Community Services. The fuel modification plan shall be approved by the OCFA. The requirements set forth in this condition

do not apply to developed, irrigated park land required or provided as part of the project design for this project.

Standard Condition 3.8 (Used Motor Oil Collection)

Prior to the issuance of building permits for a project that incorporates vehicle service bays, the applicant shall submit, and the Director of Community Development shall have approved, a plan to implement an on-site used oil (motor oil) collection program in accordance with state/local statutes and regulations.

Standard Condition 3.14 (HOA/Fuel Modification)

Prior to the issuance of building permits for any dwelling units on lots located adjacent to or within fuel modification zones, the applicant shall provide evidence that there is a requirement included in the Covenant, Condition and Restrictions that any changes to plant materials located within fuel modification zones must be approved by the Director of Community Development and be consistent with applicable OCFA requirements. For fuel modification zones adjacent to lands designated as Open Space, changes in plant materials shall also be reviewed by the Director of Community Services.

Standard Condition 3.17 (Emergency Access Plan)

Prior to the issuance of the first building permit, the applicant shall submit and have approved by the Chief of Police an Emergency Access Plan, which identifies and locates all Knox Boxes, Knox key switches, and Click2Enter radio access control receivers per the Irvine Uniform Security Code requirements. Said plan shall be incorporated into the plan set approved for building permits.

Standard Condition 3.18 (Wayfinding (Directional) Plan)

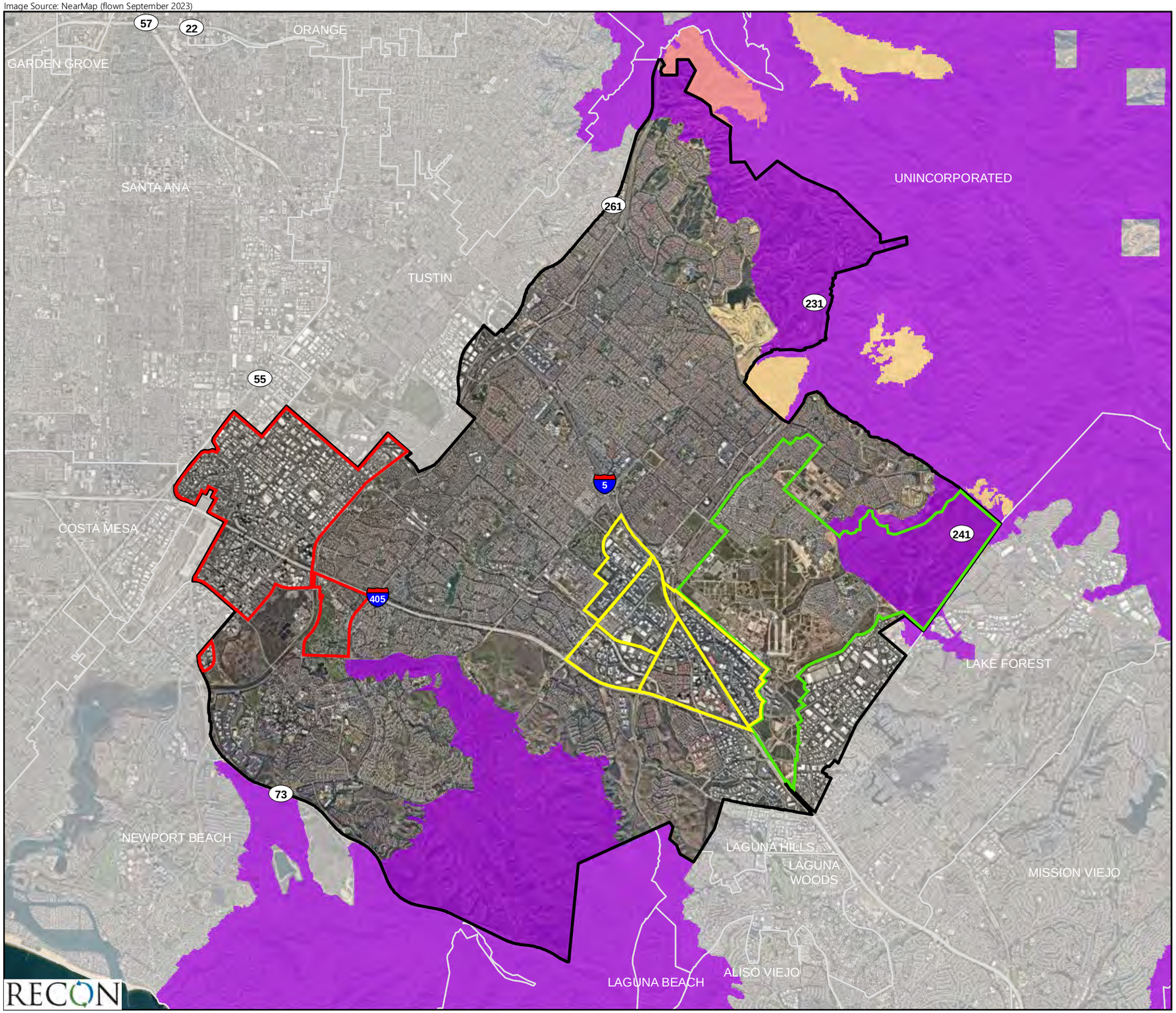
Prior to the issuance of the first building permit, a Wayfinding (directional) Plan including exterior building numbers, unit numbers, directional building/unit signs, vehicle directional signage, parking structure identification/directional signage, trail signage, and other signage as required by the Irvine Uniform Security Code, shall be approved by the Chief of Police. Said plan shall be incorporated into the plan set approved for building permits.

g. Fire Hazard Severity Zones

To assist each fire agency in addressing its responsibility area, the California Department of Forestry and Fire Prevention (CAL FIRE) uses a severity classification system to identify areas or zones of severity for fire hazards within the state. CAL FIRE is required to map these zones, which include moderate, high, and very high fire hazard severity zones (FHSZs).

As shown in Figure 4.7-2, most of the City consists of urban areas that are not designated as a FHSZ, although some areas adjacent to the City's borders are designated as moderate, high, and very high FHSZs. Approximately 11,915 acres (approximately 28.22 percent) of the City are mapped as Very High FHSZ. The topography of the foothills of the Santa Ana Mountains and San Joaquin Hills in the City is extremely conducive to wildfires. The community is bordered by natural, undeveloped hillsides

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3

Fire Hazard Severity Zone

Very High
High
Moderate

0 Miles 1.5

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FIGURE 4.7-2
Fire Hazard Severity Zones

and mountains to the northeast and open space areas to the southwest. Most of the development within the City is located between these two areas. Approximately 11,915 acres of these natural, undeveloped areas are classified as Very High FHSZ by Cal FIRE. In the northeastern portion of the City, this zone extends throughout the Santa Ana Mountain range, which extends into Riverside County to the east. Additionally, approximately 1,875 acres of land located in Focus Area 3 are classified as Very High FHSZ by Cal FIRE.

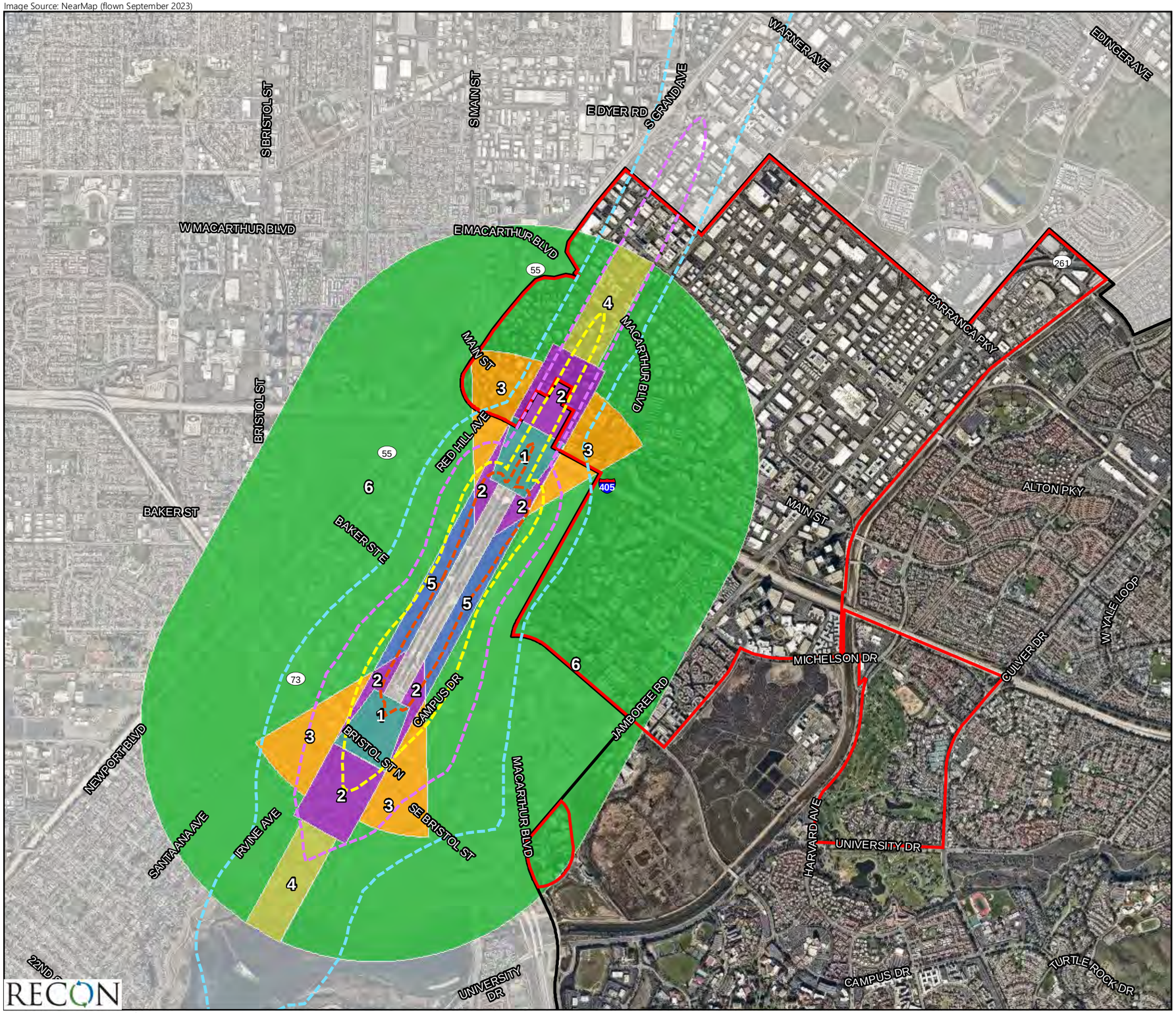
h. John Wayne Airport Land Use Plan

The Airport Environ Land Use Plan (AELUP) for John Wayne Airport, described in Appendix F of the City CEQA Guidelines, Regulatory Information, contains land use restrictions that are meant to reduce the hazards associated with airport land use plans (Figure 4.7-3).

John Wayne Airport is in unincorporated Orange County along the western border of the City, adjacent to the Irvine Business Complex. A portion of Focus Area 1 is located within the Airport Environs Land Use Plan Airport Planning Areas. Structures in this area are required to abide by land use regulations within the Airport Land Use Plan such as safety and noise compatibility zones, and height restrictions.

Each local agency having jurisdiction over any area within the planning areas is required to submit its general plans for that area to the Commission for a determination in accordance with the Government Code for the State of California, Section 65302.3 and Public Utilities Code Section 21676. The submittals should highlight those areas which address the AELUP noise impact, safety compatibility, and height restriction zones. The only requirement is that the submittals illustrate how local agencies will incorporate the performance standards outlined in the airport land use plan into their planning, zoning, and development processes. Any amendments to a General Plan must be submitted to the Commission for a determination prior to its adoption by the local agency.

Image Source: NearMap (flown September 2023)



- Irvine City Boundary
- Focus Area 1

Airport Noise

- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL

Airport Safety Zone

- 1: Runway Protection Zone
- 2: Inner Approach / Departure Zone
- 3: Inner Turning Zone
- 4: Outer Approach / Departure Zone
- 5: Sideline Zone
- 6: Traffic Pattern Zone

0 Feet 2,500

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FIGURE 4.7-3
John Wayne Airport Safety Zones

i. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the project and will help to reduce and avoid potential impacts related to hazards and hazardous materials:

- PPP HAZ-1: Compliance with the Certified Union Program Agency for Orange County (hazardous materials)
- PPP HAZ-2: Compliance with the City's LHMP
- PPP HAZ-3: Compliance with the City's Emergency Operations Plan (EOP)
- PPP HAZ-4: Compliance with Municipal Code Title 4 (Public Safety), Division 9 (Emergency Services)
- PPP HAZ-5: Compliance with Orange County Airport Land Use Compatibility Plan (ALUCP) safety and noise compatibility standards for John Wayne Airport.
- PPP HAZ-6: Compliance with Orange County and Orange County Fire Authority Local Hazard Mitigation Plan
- PPP HAZ-7: Compliance with Standard Condition 2.19 (Open Space Fuel Modification)
- PPP HAZ-8: Compliance with Standard Condition 3.14 (HOA/Fuel Modification)
- PPP HAZ-9: Compliance with Standard Condition 3.17 (Emergency Access Plan)
- PPP HAZ-10: Compliance with Standard Condition 3.18 (Wayfinding (Directional) Plan)

Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed goals, objectives, policies, and implementation actions are applicable to the analysis of hazards and hazardous materials and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Land Use Element

Goal 6: Achieve Harmonious Land Use Patterns Throughout the City

Objective LU-6. To establish cohesive and harmonious land use patterns throughout the City by implementing integrated planning strategies that promote connectivity, sustainability, and community well-being while respecting the unique character and identity of different neighborhoods.

- Policy (a): Safeguard the public health, safety, and welfare of sensitive receptors/land uses when placing them near the following land uses: those dealing with hazardous substances, those causing excessive noise or dust, and those creating other conflicts. Simultaneously, ensure that proposed sensitive receptors/land uses do not impede the ongoing operation or expansion of airports, surface utilities, off-site hazardous waste facilities, solid waste facilities, manufacturing, research and development, mining and processing, or any land use involving hazardous substances as defined by federal and state regulations.

- **Policy (c)**: Ensure that the siting of any land use which handles, generates, and/or transports hazardous substances, as defined by federal and state regulations, will not hurt existing sensitive receptors/land uses.

Noise Element

Goal 1: Noise Control Through Land Use Planning and Design

Objective N-1. Maintain healthy and safe noise environments consistent with City Standards through site design and location.

- **Policy (a)**: Require all plans submitted for development review to demonstrate whether the plan area is located within an existing or future Noise Element noise contour, including vehicle, rail, and aircraft noise contours.
- **Policy (b)**: Avoid new residential development within the 65 dBA CNEL contour for aircraft, roadway, or rail noise unless "normally compatible" exterior noise standards can be maintained in private open spaces, and interior noise standards can be achieved through building design.

Goal 3: Noise Abatement

Objective N-3. Achieve maximum efficiency in noise abatement efforts through establishing minimum standards, intergovernmental coordination, and public information programs.

- **Policy (a)**: Coordinate efforts to reduce noise impacts with appropriate public and government agencies, such as aircraft and transit regulatory agencies.
- **Policy (e)**: Seek the cooperation of aircraft regulatory agencies in the modification and selection of flight paths that will reduce noise impacts on residential and other noise-sensitive areas.
- **Policy (f)**: Ensure that any proposal to update aircraft noise contours used by the City of Irvine for planning analysis is submitted, before adoption by the City, to the Airport Land Use Commission.

Safety Element

Goal 1*:* Protect and prepare the community for natural and human-caused hazards.

Objective S-1. Hazard Preparedness and Occurrence

- **Policy (a)**: Expand participation in the Irvine Community Emergency Response Team (CERT) program for residents and businesses, including offering training in a variety of languages.
- **Policy (b)**: Coordinate with Caltrans and Orange County Transit Authority for inspection and maintenance of primary evacuation routes.
- **Policy (c)**: Coordinate with regional transit providers to identify alternative routes, stops, and modes of transit if normal infrastructure is damaged or closed as a result of extreme events.
- **Policy (d):** Encourage collaboration with local and regional partners to support business resiliency through preparedness education, trainings, and resources.

- **Policy (e)**: Update the City's Local Hazard Mitigation Plan every five years, to ensure consistency and relevancy of hazards and issues within the City, and to maintain consistency with State and/or federal legislation.
- **Policy (f):** Update the Irvine Power Outage Response Plan (annex to the Emergency Operations Plan) to identify back-up energy technologies that are more resilient to climate impacts and communications locations for critical facilities, critical infrastructure (e.g., traffic signals), sensitive uses, and community lifelines (including water, sewer, telecommunications).
- **Policy (g)**: Continuously update response procedures for first responder departments to properly address new hazard events as they emerge.
- **Policy (h)**: Encourage community members to sign-up for disaster alerts.
- **Policy (i)**: Identify opportunities to expand access to emergency and evacuation notices via multiple sources, including voice, text, siren, radio, and outdoor broadcasts.
- **Policy (j)**: Increase understanding of all energy storage technologies including critical features such as storage capacity, efficiency, duration of power, lifestyle impacts, and realistic function to provide long-term, reliable sources of power during grid outages.

Goal 4: Safeguard the community from the threat of urban and wildfire hazards.

Objective S-4. Wildfire Hazards

- **Policy (a)**: Coordinate with regional partners to explore and deploy fire detection cameras as part of a wildfire monitoring network.
- **Policy (b):** Coordinate with surrounding municipalities and Orange County to enhance evacuation and emergency management protocols, agreements, and processes.
- **Policy (c)**: Coordinate with City of Irvine and Orange County Fire Authority first responders to create a rapid response plan to secure hospital, nursing, and assisted living facilities, especially those located within fire hazard severity zones.
- **Policy (d):** Work with the Irvine Ranch Water District to ensure the long-term integrity of water supplies for the City.
- Policy (e): Continue to work with the Orange County Health Care Agency Department of Public Health and other applicable health care agencies to convey notifications to the public regarding recommendations for outdoor activities, cancelled sporting events, and other recommendations for public health and safety during periods of poor air quality.
- **Policy (f):** Encourage public and private landowners to minimize the risk of wildfire moving from wildland areas to developed properties or from property-to-property by increasing structural hardening measures (e.g., fire-rated roofing and fire-resistant construction materials and techniques), maintaining and improving defensible space on site, and supporting vegetation management in adjacent undeveloped areas.
- **Policy (g)**: Encourage existing non-conforming development to update to contemporary fire safe standards (e.g., road standards, vegetative hazards).
- **Policy (h):** Encourage removal of highly flammable vegetation with little to no biological value in Very High, High, and Moderate Fire Hazard Severity Zones and replant with fire-adapted specimens.
- **Policy (i):** Promote the proper maintenance and separation of power lines and efficient response to fallen power lines in accordance with Title 14 CCR Division 1.5 Chapter 7 Article 4 (Fire Prevention Standards for Electric Utilities).

- **Policy (j)**: Encourage the use of underground power lines for replacement power lines, where feasible.
- **Policy (k)**: Ensure that all new development and redevelopment in the Very High Fire Hazard Severity Zone is developed in compliance with minimum structural fire protection standards in the adopted edition of the California Fire and Building Codes, applicable state or local fire safety and defensible space regulations or standards, and any applicable fire protection or risk reduction measures identified in locally adopted plans.
- **Policy (l):** Ensure future neighborhoods are designed with adequate fire access and evacuation egress in the event of an emergency.
- **Policy (m)**: Avoid expanding new residential development, essential public facilities, and critical infrastructure in areas subject to extreme threat or high risk, such as Very High Fire Hazard Severity Zones, or areas classified by the California Department of Forestry and Fire Protection as having an Extreme Threat classification on Fire Threat Maps, unless all feasible risk reduction measures have been incorporated into project designs or conditions of approval. Example risk reduction measures include, but are not limited to, fuel modification zones or defensible space, structure hardening, enclosed foundations, and highly visible street signs and property addresses.
- **Policy (n)**: Ensure adequate water supply for fire suppression and ensure that the water supply is protected from wildfire impacts, including providing back-up power, with priority for solar and battery storage back-up supplies.
- **Policy (o)**: Ensure future neighborhoods are designed with sufficient water pressure to maintain fire flow.
- **Policy (p)**: Encourage the use of underground power lines for new developments.
- **Policy (q)**: Ensure that private development subject to the California Environmental Quality Act evaluate hazard impacts to ensure adequate evacuation in the event of an emergency, and if required, develop standards for the protection of the community.
- **Policy (r):** Review development proposals and coordinate with regional transportation agencies to ensure that multiple evacuation routes are available under a range of scenarios and identify alternative routes that are accessible to people without life-supporting resources.
- **Policy (s):** Coordinate with fire protection, emergency service, and water providers to reassess fire hazards and future availability of water supplies after wildfire events to adjust fire prevention and suppression needs, as necessary, for both short- and long-term fire prevention.
- **Policy (t)**: Coordinate evaluations for redevelopment of areas that have been burned after a large fire.
- **Policy (u)**: Continue the long-term maintenance of fire reduction projects; including but not limited to, a roadside fuel reduction plan, defensible space clearances (including fuel beaks) around structures, subdivisions, and other development in the Very High Fire Hazard Severity Zone.
- **Policy (v):** Maintain established response time standards for fire and life safety service.
- **Policy (w)**: Encourage the continued development, implementation, and public awareness of fire prevention programs.

4.7.3 Significance Determination Thresholds

The City has adopted Appendix G of the State CEQA Guidelines as the significance thresholds for hazards and hazardous materials. A project would normally have a significant effect on the environment if the project would:

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
2) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would result in a safety hazard for people residing or working in the project area;
6) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
7) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.7.4 Methodology

The potential for significant hazards and hazardous materials impacts associated with the project has been evaluated based upon review of existing secondary source information and data relative to hazardous or potentially hazardous materials.

4.7.5 Topics 1, 2, and 3: Transport, Use, or Disposal of Hazardous Materials/Accidental Release/Emissions Near a School

Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

4.7.5.1 Impact Analysis

Project buildout would allow for the future development of new residential uses associated with the proposed General Plan Update (57,656 residential units), the continued development of nonresidential uses that are currently permitted under the existing General Plan, nonresidential uses associated with the Great Park area, and the extension of Ada roadway. Construction activities associated with this development would likely require the transport, temporary storage, and use of asphalt fuels, oils, paints, and solvents during construction. However, these materials are not acutely hazardous, and use of these common hazardous materials in small quantities would not represent a significant hazard to the public or environment. Project construction would adhere to typical Best Management Practices regarding the use of hazardous materials, such as proper labeling and storage, removal of materials once completed, and offsite vehicle maintenance. Operation of the future project would likely include the use and storage of cleaning supplies, motor oil, building maintenance supplies, paints and solvents, pesticides, or other similar materials. However, these materials are not acutely hazardous, and the limited quantities and use of such products would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. As such, the project does not propose any development that is likely to generate or use acutely hazardous materials.

In the case of redevelopment projects, sites to be demolished would be subject to the inspection requirements of the SCAQMD Rule 1403, which would require an assessment for the ACM, and provides proper guidance for the removal of this material, when necessary. Similarly, Title 22, Division 4.5 of the CCRs provides guidance regarding the removal of hazardous materials during demolition activities, and Title 8 of the CCRs, Section 1529 provides guidance regarding limits, exposure monitoring, respiratory protection, and good working practices during demolition, grading, and excavation that may result in exposure to ACM. Title 8 of the CCRs, Section 1529 also provides guidance on how ACM and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.

Furthermore, the project would not allow for development of any uses that would generate or store substantial amounts of hazardous materials. Existing uses that handle hazardous materials independent of the project would continue to be subject to the requirements of CCR, Title 22, Division 4.5 regarding hazardous waste generators, transporters, treatment, storage, and disposal facilities, requirements of the California Hazardous Materials Management Act to prepare a HMBEP for management of hazardous materials and written procedures for response to an accidental release, as well as requirements of the California HWCL for the proper management of hazardous materials. For example, polices aim to safeguard the public health, safety, and welfare of sensitive receptors/land uses when placing them near uses dealing with hazardous substances, those causing excessive noise or dust, and those creating other conflicts. Additionally, the Land Use Element includes policies that aim to ensure that proposed sensitive receptors/land uses do not impede the ongoing operation or expansion of airports, surface utilities, off-site hazardous waste facilities, solid waste facilities, manufacturing, research and development, mining and processing, or any land use involving hazardous substances as defined by federal and state regulations. Additionally, compliance

with the Certified Union Program Agency for Orange County (PPP HAZ-1) would ensure proper handling of hazardous materials.

Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, create foreseeable upset and accident conditions involving the release of hazardous materials, or emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school, and impacts would be less than significant. Furthermore, compliance with Land Use Element Update policies regarding handling of hazardous materials would further support the City's goal of minimizing land use conflicts and safety hazards associated with hazardous materials and/or emissions.

4.7.5.2 Significance of Impacts before Mitigation

Impacts would be less than significant. No mitigation is required.

4.7.5.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.7.6 Topic 4: Hazardous Materials Sites

Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?

4.7.6.1 Impact Analysis

Project buildout would allow for the future development of new residential uses associated with the proposed General Plan Update (57,656 residential units), the continued development of nonresidential uses that are currently permitted under the existing General Plan, nonresidential uses associated with the Great Park area, and the extension of Ada roadway. While the project would allow for development citywide, future development is likely to be concentrated within the three focus areas.

As shown in Figure 4.7-1 and Table 4.7-1, there are a total of 41 hazardous materials sites located throughout the City. Specifically, 18 sites are in Focus Area 1, one site is in Focus Area 2, 14 sites are located in Focus Area 3, and the remaining 8 are located outside of the Focus Areas. In accordance with federal, state, regional, and local requirements, any new development or redevelopment that involves contaminated property would necessitate the clean-up and/or remediation of the property in accordance with applicable requirements and regulations. Compliance with the Certified Union Program Agency for Orange County (PPP HAZ-1) would ensure that projects would identify and remediate hazardous materials. Therefore, adherence to applicable clean-up and/or remediation requirements and regulations, would ensure that the project would not create a significant hazard associated with known hazardous materials sites, and impacts would be less than significant. Furthermore, compliance with Land Use Element Update policies regarding handling of hazardous

materials would further support the City's goal of minimizing land use conflicts and safety hazards associated with hazardous sites.

4.7.6.2 Significance of Impacts before Mitigation

Impacts would be less than significant. No mitigation is required.

4.7.6.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.7.7 Topic 5: Airport Hazards

Would the project be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?

4.7.7.1 Impact Analysis

The project would allow for the future development of new residential uses associated with the proposed General Plan Update (57,656 residential units), the continued development of nonresidential uses that are currently permitted under the existing General Plan, nonresidential uses associated with the Great Park area, and the extension of Ada roadway.

All areas slated for future development as part of the project are outside of the area regulated by the John Wayne AELUP, with the exception of portions of Planning Areas 29 (University of California, Irvine- North Campus) and 36 (Irvine Business Complex), which are located within the John Wayne Airport safety zones, as well as the 70 community noise equivalent level (CNEL), 65 CNEL, and 60 CNEL John Wayne Airport noise contours (see Figure 4.7-3). However, future development within these planning areas would be subject to the land use restrictions for each of the compatibility zones, which provide development limitations to minimize potential incidents of off-airport accidents to persons and property on the ground. Proposed land use maps and zoning within these planning areas were developed with consideration to airport safety and Federal Aviation Regulation height limitations, and the residential and residential mixed-use overlay zones developed under the project would adhere to the same requirements. Additionally, future development under the project would be subject to applicable notification requirements under FAR Part 77, which also identifies the maximum height at which a structure would be allowed to reach in areas subject to aircraft overflight restrictions. Compliance with the Orange County Airport Land Use Compatibility Plan (ALUCP) safety and noise compatibility standards for John Wayne Airport (PPP HAZ-5) would avoid safety hazards for future development near John Wayne Airport. The Noise Element Update includes objectives and policies to further address aircraft noise. For example, Goal 1, Objective N-1 aims to maintain healthy and safe noise environments consistent with City Standards through site design and location and Goal 3, Objective N-3 aims to achieve maximum efficiency in noise abatement efforts through establishing minimum standards, intergovernmental coordination, and public information programs. Supporting policies outline regulations for new noise-sensitive uses within areas susceptible to high noise levels. Compliance with the updated Noise Element would support the City's goal of minimizing

hazards associated with the airport. Through compliance with the regulatory requirements described above, the project would not result in a safety hazard or excessive noise for people residing or working in the project area, and impacts would be less than significant.

4.7.7.2 Significance of Impacts

Impacts would be less than significant. No mitigation is required.

4.7.7.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.7.8 Topic 6: Emergency Response

Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

4.7.8.1 Impact Analysis

Disaster preparedness throughout the City is managed by the City's OEM, who coordinates the City's preparedness efforts for hazards that could impact the community, including natural and human-caused disasters. The OEM works with all City departments, having primary responsibility for specific response functions, and ensures department-level plans and procedures are in place in the event of an emergency. Although the project could increase demand on emergency response and evacuation, future development would be located within existing developed areas and along major transportation corridors in the City that would allow for evacuation and response. Additionally, the City's LHMP (2020) provides a comprehensive assessment of the threats posed by natural and human caused hazard events and includes coordinated strategy to reduce those threats.

The project would allow for the future development of new residential uses associated with the proposed General Plan Update (57,656 residential units), the continued development of nonresidential uses that are currently permitted under the existing General Plan, nonresidential uses associated with the Great Park area, and the extension of Ada roadway.

The extension of Ada roadway is not anticipated to interfere with emergency response activities or plans, but rather would likely improve emergency responses by improving connectivity within this area of the City. Future development facilitated by the project, including new residential uses, the continuation of nonresidential uses at the same intensities permitted by the current General Plan, and nonresidential development within the Great Park area would be designed consistent with the requirements of the City's LHMP (PPP HAZ-2), the City's EOP (PPP HAZ-3), Municipal Code Title 4 (Public Safety), Division 9 (Emergency Services) (PPP HAZ-4), and Standard Condition 3.17 (Emergency Access Plan) (PPP HAZ-9). Therefore, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and impacts would be less than significant. Furthermore, the updated Safety Element includes goals and objectives related to emergency access (see Goal 1, Objective S-1 and supporting policies related to improved emergency response operations in the City). Compliance with the updated Safety Element

would further bolster and limit impacts of future development on emergency response and evacuation plans.

4.7.8.2 Significance of Impacts before Mitigation

Impacts would be less than significant. No mitigation is required.

4.7.8.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.7.9 Topic 7: Wildland Fires

Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

4.7.9.1 Impact Analysis

As shown in Figure 4.7-2, most of the City consists of urban areas that are not designated as a FHSZ. Although approximately 1,875 acres of land located in Focus Area 3 is designated as Very High FHSZ, future housing development and proposed improvements to the Great Park are not likely to be located within the segment of Focus Area 3 designated as Very High FHSZ, and any development near this area would be designed consistent with all applicable fire safety requirements. Future development and redevelopment could also occur outside of the proposed focus areas, which may be located along the City boundaries adjacent to land identified as having Moderate, High, or Very High FHSZ designations. For instance, areas within the northeastern portion of the City, which extends into Riverside County to the east are designated as Very High FHSZ. However, all new development and redevelopment in these areas would be required to prepare a fuel modification plan before approval of tentative maps and grading permits, per City Standard Condition 2.19 Open Space Fuel Modification (PPP HAZ-7) and Standard Condition 3.14 HOA/Fuel Modification (PPP HAZ-8) Adherence to these requirements would ensure that the project would not expose project occupants to significant risks involving wildfires or the uncontrolled spread of a wildfire, and impacts would be less than significant. Furthermore, the updated Safety Element includes Goal 4 which aims to safeguard the community from the threat of urban and wildfire hazards, and supporting policies aimed at improving emergency response during fire hazards and design standards to preventatively minimize potential wildfire risks. Compliance with the updated Safety Element would further support the City's goal of minimizing risks associated with wildfires.

4.7.9.2 Significance of Impacts before Mitigation

Impacts would be less than significant. No mitigation is required.

4.7.9.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.7.10 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for hazards and hazardous materials. The study area for the assessment of cumulative impacts related to hazards and hazardous materials is the City. As population growth increases, the number of people potentially exposed to hazards and hazardous materials would increase. Potential impacts associated with the release of hazardous materials are site-specific in nature and does not compound or increase in combination with impacts elsewhere. Asphalt, fuels, oils, paints, and solvents used during construction are not acutely hazardous, and use of these common hazardous materials in small quantities would not represent a significant hazard to the public or environment. Use and storage of cleaning supplies, motor oil, building maintenance supplies, paints and solvents, pesticides, or other similar materials during operation are not acutely hazardous, and the limited quantities and use of such products would not create a significant hazard to the public. Future development would be required to comply with existing regulatory requirements, which would ensure projects would remediate existing hazardous contamination before construction can commence. Compliance with the Certified Union Program Agency for Orange County (PPP HAZ-1) would ensure that projects would identify and remediate hazardous materials listed on the EnviroStor and Geotracker databases. Future residential development within the John Wayne Airport safety zones, as well as the 70 CNEL, 65 CNEL, and 60 CNEL John Wayne Airport noise contours would be subject to the land use restrictions for each of the compatibility zones, which provide development limitations to minimize potential incidents of off-airport accidents to persons and property on the ground. Future development would be located within existing developed areas and along major transportation corridors in the City that would allow for evacuation and response. Future development would also be designed consistent with all applicable safety requirements and would not physically interfere with any emergency response or evacuation plans, including the LHMP. Future development would also implement an Emergency Access Plan that would maintain emergency access to all properties within the project limits and the surrounding vicinity. All new development and redevelopment adjacent to a CAL FIRE designated FHSZ would be required to prepare a fuel modification plan and adhere to other fire protection requirements before approval of tentative maps and grading permits, per City Standard Condition 2.19 Open Space Fuel Modification (PPP HAZ-7) and Standard Condition 3.14 HOA/Fuel Modification (PPP HAZ-8). Furthermore, compliance with the updated Safety Element would further support the City's goal of minimizing land use conflicts and hazards associated with hazardous materials, emergencies, and hazardous sites. Therefore, the project would not contribute to a cumulative impact related to hazards and hazardous materials.

4.8 Hydrology/Water Quality

This section analyzes potentially significant impacts related to hydrology and water quality that could result from implementation of the project. This analysis relies upon the Proposed Conditions Infrastructure Report for Water, Sewer, Storm Drainage, and Water Quality prepared by Fuscoe Engineering, Inc. (Appendix I), the updated General Plan Safety Element, and the City of Irvine Local Hazard Mitigation Plan.

4.8.1 Existing Conditions

4.8.1.1 Watersheds/Water Quality

Figure 4.8-1 presents the location of the City of Irvine (City) in relation to regional watersheds. The City is located within the Newport Bay Watershed, which is defined by the foothills of the Santa Ana Mountains to the east (Loma Ridge), and the San Joaquin Hills to the west and southwest. The Newport Bay Watershed is a part of the larger Orange County Watershed Management Areas, which is split into a South, North, and Central Watershed Management Areas (WMA). The total area of the Newport Bay Watershed is approximately 154 square miles (98,500 acres) of the Central Orange County WMA. Each watershed is comprised of a network of municipal drains and channels that ultimately deliver stormwater to Newport Bay.

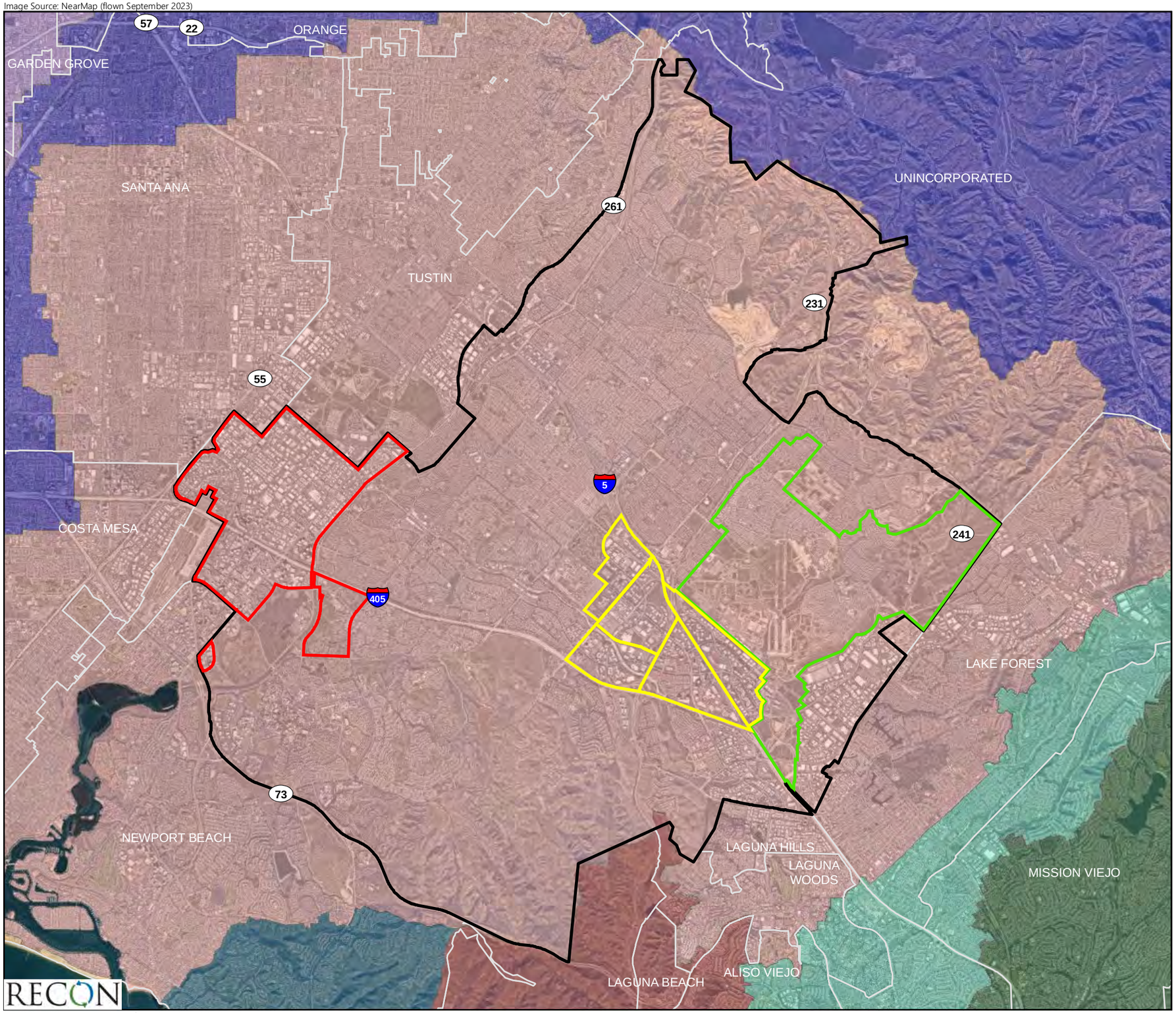
Section 303(d) of the federal Clean Water Act (CWA) requires states to identify and establish a list of water bodies for which technology-based effluent limitations required by section 301 of the CWA are not stringent enough to attain and maintain water quality standards. Table 4.8-1 lists Impaired Water Bodies in the City.

Table 4.8-1
Impaired Water Bodies in the City

Water Body/Channel	List of 303(d) Impairments	TMDL
Borrego Creek (Reach 2)	Ammonia, Indicator Bacteria	
Peters Canyon Channel	Benthic Community Effects, DDT, Indicator Bacteria, Malathion, pH, Selenium, Toxaphene, Toxicity	DDT, Toxaphene
San Diego Creek Reach 1	Benthic Community Effects, DDT, Indicator Bacteria, Malathion, Nutrients, Sedimentation/Siltation, Selenium, Toxaphene, Toxicity	Newport Bay/San Diego Creek Nutrient TMDL, Newport Bay Toxics TMDL,
San Diego Creek Reach 2	Sedimentation/Siltation, Nutrients, Indicator Bacteria, Benthic Community Effects, Toxicity	

SOURCE: State Water Resources Control Board 2018.

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3

Watershed

Aliso
Anaheim Bay
Laguna Coast
Newport Bay
Newport Coastal
San Juan Creek
Santa Ana River

0 Miles 1.5

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FIGURE 4.8-1
Watersheds

4.8.1.2 Storm Water Drainage Systems

Construction Site Runoff

Stormwater runoff is caused by natural precipitation, and urban runoff is water generated by human use, such as irrigation systems. Stormwater runoff from construction sites contains pollutants and sediment that can potentially be carried offsite via the storm drain system and to downstream water bodies, catch basins, and ultimately, to conveyance channels and to Newport Bay. Construction site sediments and pollution can cause chemical, biological, and physical harm to local waterways.

Post-construction Site Runoff

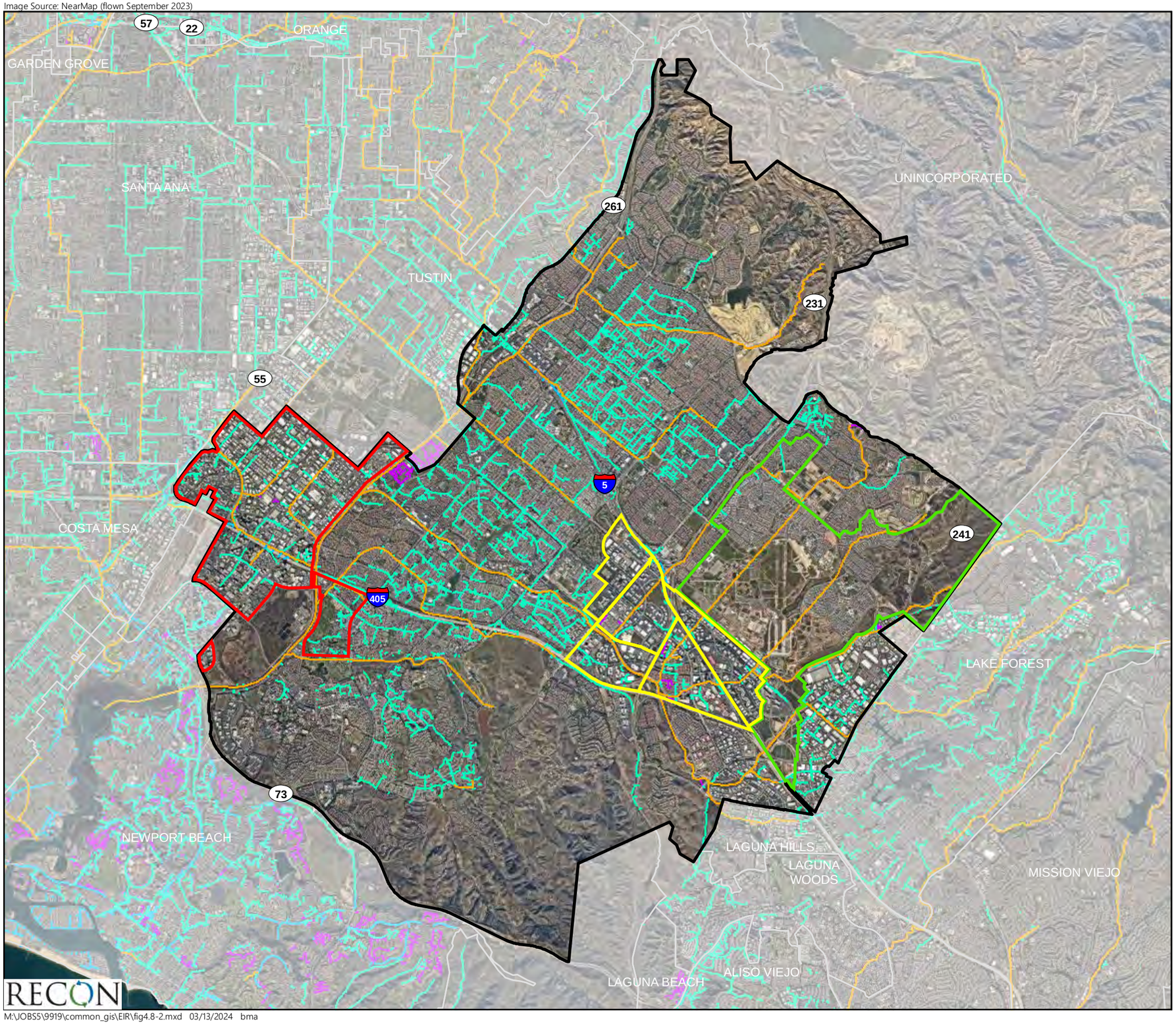
Post-construction runoff can come from landscaping irrigation (urban runoff) and natural precipitation (stormwater runoff). Under the Orange County permit (Order No. R8-2009-0030, amended by Order No. R8-2010-0062), new development and redevelopment must match the pre-project water balance (i.e., the amount of water that becomes runoff) for the two-year frequency storm event.

The local storm drain system is owned and maintained by the City and maintained by the Public Works and Transportation Department. The regional flood control system is owned and maintained by the Orange County Public Works Department (OCPW). Local storm drain facilities are designed to accommodate 25-year flow requirements, and the regional County facilities are designed to accommodate 100-year storm events. Figure 4.8-2 presents the existing storm drain system throughout the City. The City has an ongoing monitoring and maintenance procedure to ensure the storm drain system functions effectively. To prevent against significant flooding during storm events, OCPW and the City monitor and maintain its respective channels and storm drain system to ensure they are conveying storm flows as designed.

The City was designed as a master planned community. As such, the City is divided into various planning areas or "villages." As each planning area was developed, they were required to implement the necessary storm drain system for the full buildout of the planning area. This was repeated for all planning areas, resulting in a well-functioning storm drain system.

The City contains both natural areas where stormwater can be recharged into the ground and urbanized areas that are dominated by impervious (nonporous) surfaces and other hardscapes. However, most waterways in the City are channelized for flood control purposes. Because growth in the City has been master planned, stormwater infrastructure has been improved incrementally as the City has grown, keeping pace as development has occurred. Deficiencies in the system are limited. Periodically, the OCPW scours the San Diego Creek Channel to reduce sedimentation and ensure the proper functioning of channels.

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3

Storm Drain

City
State
County
Federal
OCFCD
Private

0 Miles 1.5

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FIGURE 4.8-2
Storm Drain System

In 1997, the Irvine Ranch Water District (IRWD) implemented a treatment program, by creating wetlands that use organisms, plants, and soil to naturally remove bacteria, nitrogen, and phosphorus from water. The wetlands at the San Joaquin Marsh and Wildlife Sanctuary in the City use this natural treatment process to handle urban runoff from San Diego Creek. Plants and soils in the manmade ponds take about seven to 10 days to remove nitrates and other pollutants and deliver cleaner water back into the creek before it makes its way through Upper Newport Bay to the ocean. The success of the program led to the expansion of the natural treatment system (NTS) created throughout the San Diego Creek watershed to treat urban runoff prior to reaching the San Joaquin Marsh. There are approximately 40 smaller NTS systems currently built and operating with additional sites under consideration. Overall, the NTS program has resulted in a significant improvement in water quality for dry weather flows and smaller storm events resulting in the protection of existing receiving waters.

4.8.1.3 Flooding and Dam Inundation

Dam failure can result from several causes such as earthquakes, rapidly rising floodwaters, and structural design flaws. These hazards can occur instantaneously or gradually depending on the source of the failure. Inundation associated with these events has the potential to cause loss of life, damage property, and other ensuing hazards, as well as the displacement of persons residing in the inundation path. There are seven dams that have the potential to inundate areas of the City if failure were to occur. Of these dams, three of them are located within Irvine and four are located outside of the City limits.

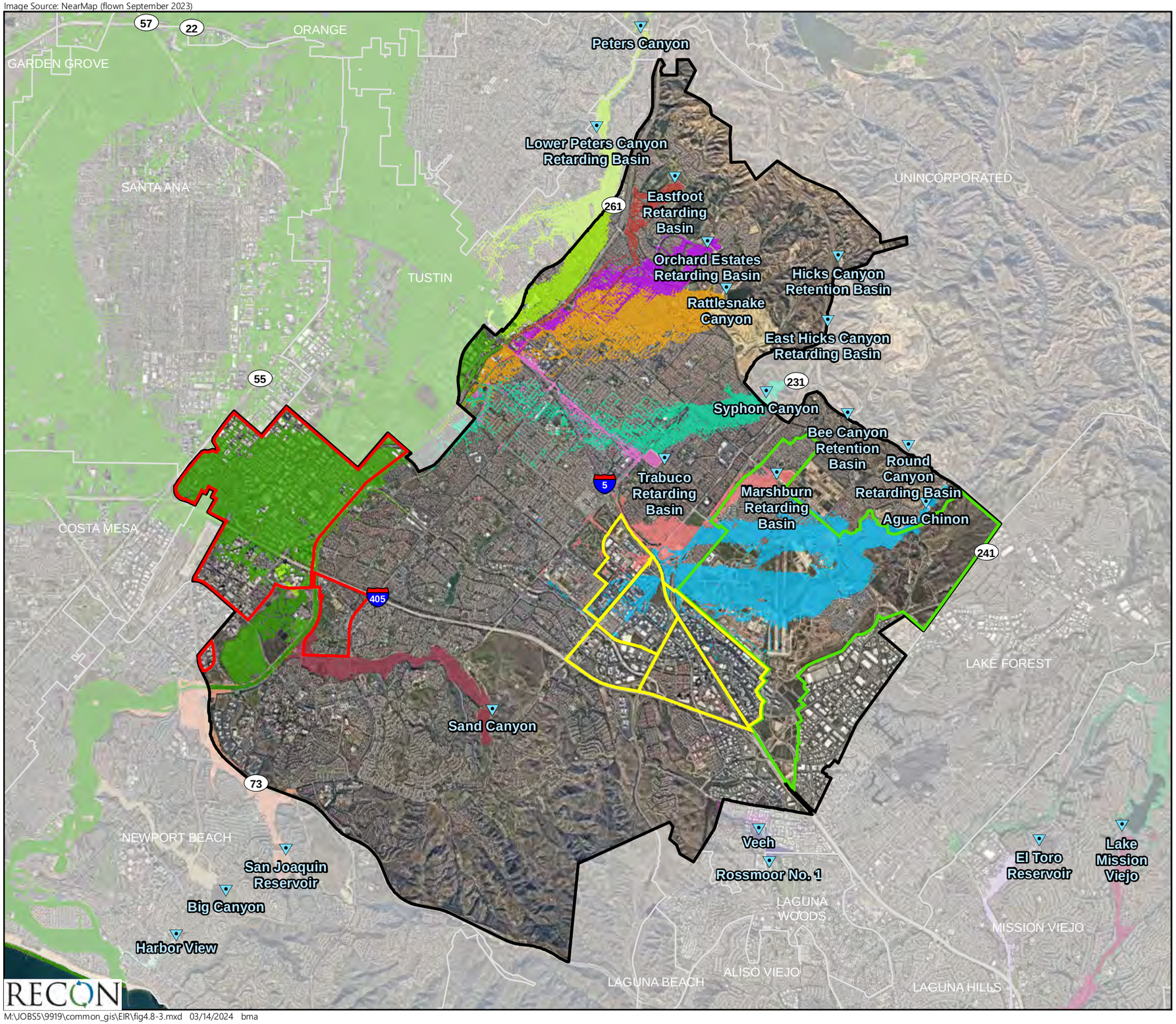
Flooding could occur from severe rainfall or from dam failure (Table 4.8-2). Dam inundation is flooding caused by the release of impounded water from structural failure or overtopping of a dam. Seiches or tsunamis can result from abrupt movements of large volumes of water due to earthquakes, landslides, volcanic eruptions, meteoric impacts, or onshore slope failure. Figure 4.8-3 presents the areas within the City that have been identified as having the potential to be subject to dam inundation. The risk of flooding due to dam failure is limited to the period during and immediately after major storms.

Table 4.8-2
Dams with Potential to Inundate Areas of Irvine

Dam Name	Owner/Operator	Year Built	Volume Water Impounded (acre-feet)
Rattlesnake Canyon Reservoir	Irvine Ranch Water District	1959	1,480
Sand Canyon Reservoir	Irvine Ranch Water District	1912	768
Syphon Canyon Reservoir	Irvine Ranch Water District	1966	535
Peters Canyon Reservoir	County of Orange	1932	626
Santiago Dam	Irvine Ranch Water District and Serrano Water District	1931	25,000
San Joaquin Reservoir	Irvine Ranch Water District	1966	>3,000
Villa Park Dam	Orange County Flood Control District	1963	>15,000

SOURCE: City of Irvine 2024a.

Image Source: NearMap (flown September 2023)



- Irvine City Boundary
- Focus Area 1
- Focus Area 2
- Focus Area 3
- Dams

Dam Inundation Area

- Agua Chinon
- Big Canyon
- Eastfoot Retarding Basin
- El Toro Reservoir
- Harbor View
- Lake Mission Viejo
- Lower Peters Canyon Retarding Basin
- Marshburn Retarding Basin
- Orchard Estates Retarding Basin
- Peters Canyon
- Rattlesnake Canyon
- Rossmoor No 1
- San Joaquin Reservoir
- Sand Canyon
- Santiago Creek
- Syphon Canyon
- Trabuco Retarding Basin
- Upper Oso
- Veeh
- Villa Park

0 Miles 1.5

FIGURE 4.8-3
Dam Inundation Areas

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The National Flood Insurance Act (1968) established the National Flood Insurance Program, which is based on the minimal requirements for flood plain management and is designed to minimize flood damage within Special Flood Hazard Areas. The Federal Emergency Management Agency (FEMA) is the agency that administrates the National Flood Insurance Program. Figure 4.8-4 presents the location of areas that have been mapped by FEMA as floodways, 100-year (1 percent annual chance of flooding) and 500-year flood hazard zones (0.2 percent annual chance of flooding)

Future development within a designated flood zone would be required to follow FEMA and the City's Floodplain District requirements, including flood analysis, proper setbacks, and sufficient pad elevations. Table 4.8-3a through 4.8-3d present the acreage of land within the City and three focus areas that are targeted for future development under the project, which have been assigned a FEMA flood zone designation. Descriptions of the focus areas can be found in Chapter 3.0 of this PEIR.

Table 4.8-3a
FEMA Floodplains/Floodways within the City

Floodplain/Floodway	Acres
500-year Floodplain	1,1150.09
100-year Floodplain	1,288.76
Floodway	294.01
TOTAL	**2,732.86**
SOURCE: FEMA 2024.	

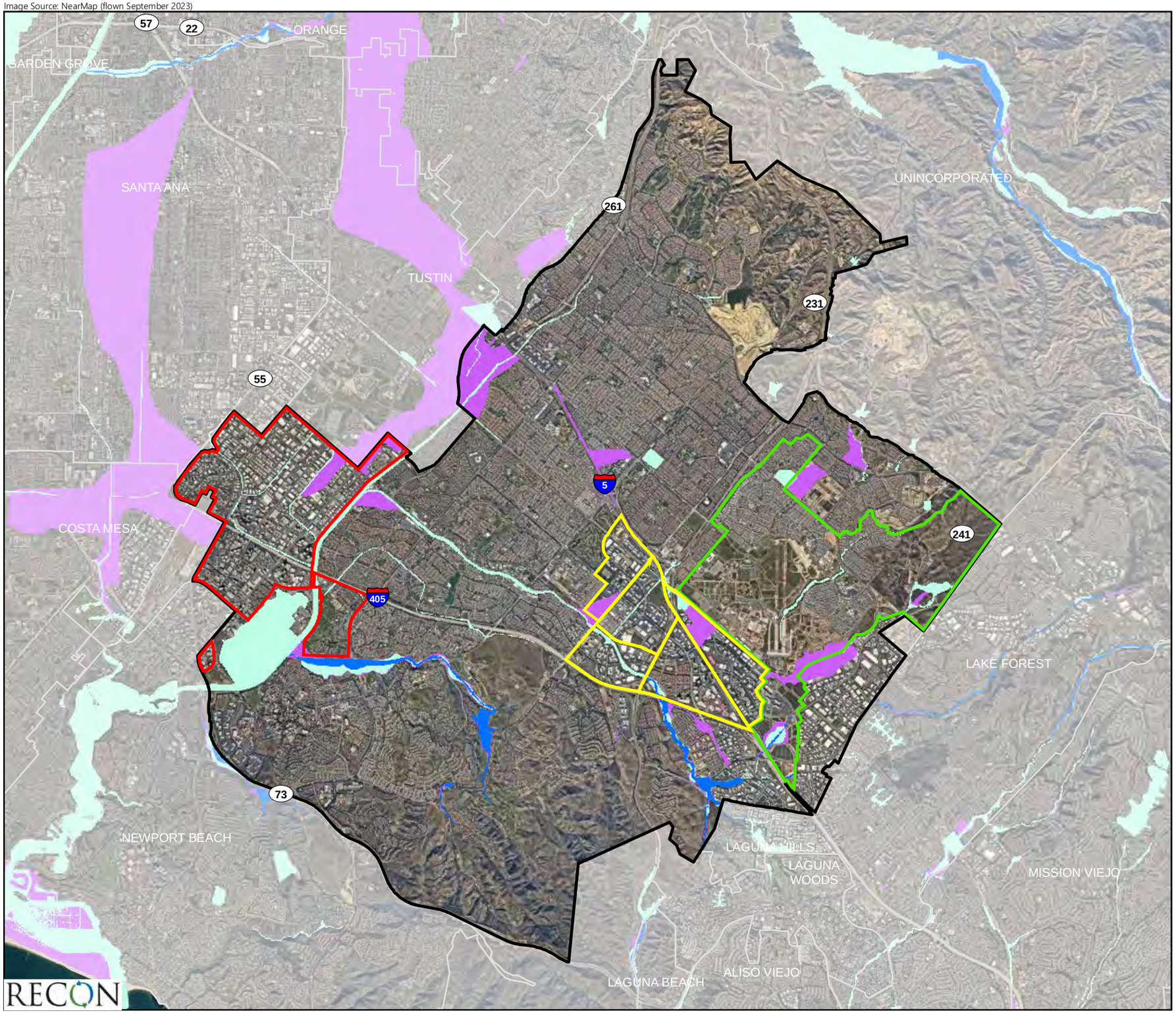
Table 4.8-3b
FEMA Floodplains/Floodways within Focus Area 1: Greater Irvine Business Complex Area

Floodplain/Floodway	Acres
500-year Floodplain	127.34
100-year Floodplain	84.44
Floodway	0
TOTAL	**211.78**
SOURCE: FEMA 2024.	

Table 4.8-3c
FEMA Floodplains/Floodways within Focus Area 2: Greater Spectrum Area

Floodplain/Floodway	Acres
500-year Floodplain	125.34
100-year Floodplain	64.65
Floodway	5.86
TOTAL	**195.85**
SOURCE: FEMA 2024.	

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3

FEMA Flood Zones

Floodway
100-Year Flood Zone
500-Year Flood Zone

0 Miles 1.5

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FIGURE 4.8-4
FEMA Flood Zones

Table 4.8-3d FEMA Floodplains/Floodways within Focus Area 3: Great Park Neighborhood Transit Village	
Floodplain/Floodway	Acres
500-year Floodplain	138.73
100-year Floodplain	131.64
Floodway	9.28
TOTAL	**279.65**
SOURCE: FEMA 2024.	

4.8.1.4 Groundwater

The City and its sphere of influence are located within the Coastal Plain of Orange County groundwater basin also known as Basin 8-1. Under the Sustainable Groundwater Management Act (SGMA), Basin 8-1 is classified as a medium priority basin, due to heavy reliance on the Basin's groundwater as a source of water supply. IRWD's local surface water supplies are the drainage tributary areas to the Irvine Lake and Harding Canyon Reservoir. On average, about 4,000-acre feet per year is captured for IRWD's demands. Water supplies available from the Harding Canyon are often limited due to dry weather conditions. Recycled water meets about 33 percent of IRWD's (non-potable; agricultural irrigation, landscape, golf course, commercial, and industrial uses) water demands. In 2020, approximately 24,626 AF of wastewater was recycled within the service area from the Michelson Water Recycling Plant and Los Alisos Water Recycling Plant (Table 6-3). In the case there are insufficient supplies of treated wastewater for use from the Michelson Water Recycling Plant and Los Alisos Water Recycling Plant, supplemental imported water can be used.

IRWD operates the Peters Canyon Channel Water Capture and Reuse Project which captures dry weather runoff from three storm drain diversion facilities prior to flows entering Peters Canyon Channel. The dry weather runoff is then delivered to Orange County Sanitation District for treatment and subsequent discharge to Orange County Water District's Groundwater Replenishment System for eventual groundwater recharge. There are currently no commitments for purchase of desalination water by IRWD.

Portions of the groundwater table beneath the City have high salts levels because of the natural geology and the history of agricultural use. The Irvine Desalter Project includes five wells located near the segment of Interstate5 within the City. Salty water is pumped from these wells and sent to the Irvine Desalter Project treatment facility. The treatment process uses reverse osmosis, decarbonation, and disinfection to make the water suitable for drinking purposes. Purified water provides 5,100 acre-feet or 1.6 billion gallons of drinking water, enough for 50,000 people per year.

The El Toro Groundwater Remediation program is designed to address trichloroethylene (TCE) in the groundwater basin beneath the former Marine Corps Air Station (MCAS) El Toro. TCE is a volatile organic compound that was used as a solvent for aircraft cleaning prior to the development of stricter environmental regulations. The IRWD, OCWD, and federal authorities are pumping water from a three-square-mile plume, treating the water, and returning the cleaned water to irrigate landscaping. This program provides 1.3 billion gallons of clean water annually.

Nitrate is one of the most common and widespread contaminants in groundwater supplies. Elevated levels of nitrate originate from fertilizer use, animal feedlots, wastewater disposal systems, and other sources. Plants and bacteria break down nitrate, but excess amounts can leach into groundwater. Certain portions of the City have nitrate levels exceeding maximum contaminant levels (MCLs) established in state law. IRWD Wells 21 and 22 contain nitrate at levels exceeding the primary MCL of 10 milligrams per liter and total dissolved solids concentrations above the secondary MCL. IRWD has therefore constructed a reverse osmosis treatment facility to reduce concentrations in the water to meet state water quality standards before conveying water to the potable supply distribution system.

Selenium is a naturally occurring micronutrient found in soils and groundwater in the Newport Bay Watershed. Selenium is essential for reproductive health and immune system function in humans, fish, and wildlife. However, selenium bio-accumulates in the food chain and can cause public health concerns. Prior to urban development, the Irvine Subbasin contained an area known as the Swamp of the Frogs. Runoff from local foothills over thousands of years accumulated selenium-rich deposits in the swamp. To make this region suitable for farming, drains and channels were constructed. This mobilized selenium from sediments into the shallow groundwater. Thus, the Nitrogen and Selenium Management Program was formed to develop and implement a work plan to address selenium and nitrate in the watershed to comply with the requirements of National Pollutant Discharge Elimination System (NPDES) Permits issued by the Santa Ana Regional Water Quality Control Board (RWQCB).

4.8.2 Applicable Regulatory Requirements

4.8.2.1 Federal Regulations

a. Federal Water Pollution Control Act (also known as Clean Water Act)

The CWA, enacted in 1972, is intended to restore and maintain the integrity of the nation's waters through a system of water quality standards, discharge limitations, and permits. The fundamental purpose of the CWA is to protect the designated beneficial uses of water resources. Section 303(d) of the CWA defines water quality standards as consisting of both the uses of surface waters (beneficial uses) and the water quality criteria applied to protect those uses (water quality objectives). State and regional water quality control boards have been charged with ensuring that beneficial uses and water quality objectives are established for all waters of the state. Development in the City would be subject to the NPDES to protect water resources and control pollutants in runoff.

Section 303(d) of the federal CWA requires states to identify and establish a list of water bodies for which technology-based effluent limitations required by section 301 of the CWA are not stringent enough to attain and maintain water quality standards. The list must be submitted by the State Water Resources Control Board (SWRCB) to the US Environmental Protection Agency every two years for review and approval. The water bodies on the 303(d) list are termed "impaired water bodies." For each water-quality-limited segment of water bodies identified in the 303(d) list, each respective RWQCB must develop a plan to determine the "total maximum daily load" (TMDL)—the maximum amount of a pollutant that a water body can receive per day and still attain water quality standards—or take other action to address the impairment. The implementation of and goal of a TMDL is to

reduce pollutant loads to an impaired water body so as to regain the beneficial uses of the water body.

b. Federal Emergency Management Agency

FEMA is the primary agency in charge of administering programs and coordinating with communities to establish effective floodplain management standards. FEMA is responsible for delineating areas of flood hazards. It is then the responsibility of state and local agencies to implement the means of carrying out FEMA requirements. Flood zones are geographic areas that FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

4.8.2.2 State Regulations

a. Porter-Cologne Water Quality Control Act

This act, which is a portion of the State Water Code, established responsibilities and authorities of the State Water Resources Control Board (SWRCB) and its nine RWQCBs. Each RWQCB is directed to adopt water quality control plans for the waters of an area to include identification of beneficial uses, objectives to protect those uses, and an implementation plan to accomplish the objectives. The City is under the jurisdiction of the Santa Ana RWQCB.

b. Sustainable Groundwater Management Act

In 2014, California lawmakers passed the SGMA, which mandates that all groundwater basins within the state be managed to ensure long-term water supply reliability. Under SGMA, each high and medium priority basin, as identified by the California DWR, must have a groundwater sustainability agency that will be responsible for groundwater monitoring and the development of a groundwater sustainability plan to ensure long-term groundwater sustainability and prevent overdraft. While the Orange County Water District's (OCWD) water basin is not in overdraft, OCWD prepared a groundwater management plans to further long-term groundwater sustainability. The plan describes basin hydrogeology, water supply monitoring, management and operation of recharge facilities, groundwater replenishment system, seawater intrusion and barrier management, and water quality protection.

c. State Water Resources Control Board (SWRCB) General Construction Permit 2022

The State Water Board adopted the 2022 Construction Stormwater General Permit, Order 2022-0057-DWQ, on September 8, 2022, and it went into effect on September 1, 2023. State and regional water quality control boards have been charged with ensuring that beneficial uses and water quality objectives are established for all waters of the state. Development in the City would be subject to the NPDES to protect water resources and control pollutants in runoff. The General Construction Permit is administered at the local level by the Santa Ana RWQCB.

4.8.2.3 Regional Regulations

a. Orange County Municipal Stormwater Permit and Orange County Drainage Area Management Plan

The 2009 Orange County Municipal Stormwater Permit as amended by Order No. R8-2010-0062 is currently in effect. The Permit includes new development and significant redevelopment project requirements to demonstrate compliance with CWA regulations. Permit requirements are implemented through the Drainage Area Management Plan (DAMP), which includes the Model Water Quality Management Plan (WQMP) and Technical Guidance Document. These documents assist project proponents with addressing post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects that qualify as Priority Projects. The specific water pollutant control elements of the Orange County Stormwater Program are documented in the DAMP which is the primary policy, planning and implementation document for municipal NPDES Stormwater Permit compliance. DAMP Section 7 ensures that all new development and significant redevelopment incorporate appropriate Site Design, Source Control and Treatment Control Best Management Practices (BMPs) to address specific water quality issues.

The Model WQMP has been developed to assist development project proponents with addressing post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects that qualify as Priority Projects. In general, Priority Projects include new development that creates 10,000 square feet of impervious surface and significant redevelopment that adds or replaces 5,000 or more square feet of impervious area on an already developed site.

The Model WQMP describes the process that project proponents would employ for developing a Project WQMP for individual new development and significant redevelopment projects. A Project WQMP is a plan for minimizing the adverse effects of urbanization on site hydrology, runoff flow rates and pollutant loads. The Permit also encourages development of Conceptual or Preliminary WQMPs in the planning stage prior to submission of a final Project WQMP.

The Technical Guidance Document is intended to provide guidance on how to complete the Conceptual/Preliminary WQMP and/or the Project WQMP. The Municipal Stormwater Permit requires the use of Low Impact Development (LID), site design practices, hydromodification control BMPs, source control BMPs and treatment control BMPs as a stormwater management strategy. LID emphasizes retention or biotreatment and the use of site features integrated with distributed stormwater controls that are designed to more closely mimic natural hydrologic patterns of pre-development condition than traditional stormwater controls. The Technical Guidance Document includes preventative site design practices as well as mitigative LID best management practices.

Santa Ana Regional Water Quality Control Plan

Pursuant to the Santa Ana Region (North Orange County) NPDES Permit, the 2003 Orange County Drainage Area Management Plan for New Development and Significant Redevelopment lists the following potential impacts to be considered during CEQA review:

- Potential impact of project construction on stormwater runoff

- Potential impact of project's post-construction activity on stormwater runoff
- Potential for discharge of stormwater pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks, or other outdoor work areas
- Potential for discharge of stormwater to affect the beneficial uses of the receiving waters
- Potential for significant changes in the flow velocity or volume of stormwater runoff to cause environmental harm
- Potential for significant increases in erosion of the project site or surrounding areas
- Potential decreases in quality and quantity of recharge to groundwater
- Potential impact of pollutants in stormwater runoff from the project site on any 303(d) listed "impaired" water bodies

The Industrial General Permit (IGP) is an NPDES permit that regulates discharges associated with 10 broad categories of industrial activities. The IGP requires the implementation of management measures that would achieve the performance standard of best available technology that is economically achievable and best conventional pollutant control technology. The IGP also requires the development of a SWPPP and a monitoring plan. Through the SWPPP, sources of pollutants are identified and the means to manage the sources to reduce stormwater pollution are described.

b. Regional Flood Control Master Plan

The 1999 Regional Flood Control Master Plan for San Diego Creek serves as the comprehensive engineering and flood protection document for the City's regional flood control facilities. The Orange County Flood Control District (OCFCD) and the City use the master plan to regulate peak flow discharges and ensure that runoff is managed in accordance with the design parameters in the master plan. When the City processes major land use changes within the watershed, detailed studies and addendums to the master plan are required. The master plan is used to determine where detention and flow attenuation is required to match up with the ultimate conditions within the master plan. The City also pays its fair contribution for any large-scale OCFCD flood control improvements that benefit the City.

4.8.2.4 Local Regulations

a. Water Resources Master Plan

IRWD developed a comprehensive planning document titled Water Resources Master Plan (WRMP) that identifies existing and future planned water supply sources and demands to effectively manage such a large water system. The most recent updated occurred in 2019. The data within the WRMP is used for hydraulic modeling, the groundwater work plan, assessments of available water supply for specific development projects as required by CWC Section 10910, sub-area master plans and basin pumping projections. As part of the WRMP, the IRWD Capital Program identifies short-term and long-term projects needed to maintain future demands while accounting for replacement and

maintenance for existing facilities. In addition to the Capital Program, the Financial Plan includes infrastructure repair and replacement funds and identifies how to pay and manage the long-term funding requirements.

b. Urban Water Management Plans

Through Urban Water Management Plan (UWMP) reporting, IRWD uses population growth, climate scenarios, water supplies, water conservation, large development projects and approved specific plans and other factors to estimate future water demand and evaluate the ability to meet this demand through various water supply sources over a 20-year projection. This document is required by the California Water Code and based on the Water Resources Master Plan, with certain elements required by the water code. It is updated every five years, and the latest revision was prepared in 2020.

c. Local Hazard Mitigation Plan

The Local Hazard Mitigation Plan (LHMP) is designed to identify the City's hazards, estimate the probability of future occurrences, and set goals to mitigate potential risks to reduce or eliminate long-term natural or made-made hazard risks to life and property. The LHMP identifies specific hazards related to flooding and erosion that could result in damage to life and/or property. The LHMP also establishes hazard priority and identifies mitigation strategies for reducing losses associated with these hazards.

d. Municipal Code

The following regulations from the Municipal Code address hydrology and water quality.

Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code)

The City's Grading Code establishes rules and regulations to control excavation, grading, and earthwork, construction (including fills and embankments), and establishes administrative requirements for issuance of grading permits, approval of plans, and inspection of grading construction in accordance with the requirements for grading and excavation contained in the California Building Code as adopted and modified by City ordinance. The Grading Code also contains erosion control requirements and guidelines for the preparation of erosion control plans.

Title 6 (Public Works), Division 8 (Pollution), Chapter 3 (Stormwater/Urban Runoff)

This section of the Municipal Code also outlines the provisions for the control of stormwater/urban runoff in the City and provides legal authority to enforce the requirements within the City's NPDES Permit as it pertains to new development and significant redevelopment, such as the requirement for submittal of a Water Quality Management Plan.

e. Grading Manual

The City Grading Manual is a compilation of rules, procedures, and interpretations necessary to carry out the provisions of the City Grading Code. The purpose of the Grading Manual is to assist users of the Grading Code by supplementing it with detailed information regarding rules, interpretations, standard specifications, procedures, requirements, forms and other information applicable to control excavation, grading and earthwork construction in the City. The Grading Manual also contains erosion control requirements. For example, Section 9.4 (Disposal) of the Grading Manual states that all drainage generated within development, which includes surface water and all drainage facilities, shall drain independently within a system of disposal approved by the City. Drainage shall be designed to carry water to the nearest practical street, storm drain, or natural watercourse. Erosion of ground in the area of discharge, including a return of flow to a natural sheet flow condition, shall be prevented by installation of nonerosive down-drains, riprap, energy dissipators or other approved devices.

f. Planning Commission Resolution No. 09-2968

Standard Conditions are adopted by Planning Commission Resolution No. 09-2968. These conditions assist staff in applying standardized wording for frequently used conditions of approval to discretionary and subdivision applications. Standard conditions are applied on a case-by-case basis depending upon the specifics of the application. Companion conditions are cross-referenced and are required to be used together. The following standard conditions related to hydrology and water quality apply:

Standard Condition 2.7 (Groundwater Survey)

Prior to the issuance of precise grading permits, the applicant shall submit to the Chief Building Official a groundwater survey of the entire site. The analysis shall be prepared by a licensed geotechnical engineer versed in groundwater analysis and shall include the following information and analysis:

- Potential for perched groundwater intrusion into the shallow groundwater zone upon buildout.
- Analysis for relief of groundwater buildup and properties of soil materials on-site.
- Impact of groundwater potential on building and structural foundations.
- Proposed mitigation to avoid potential for groundwater intrusion within five feet of the bottom of the footings.

Standard Condition 2.11 (Special Flood Hazard Area)

Prior to the issuance of a precise grading permit for any lot or parcel wholly or partially located within the Special Flood Hazard Area (SFHA, FP 2 District), the applicant shall submit one of the following:

- The final approved Letter of Map Revision (LOMR) to the Flood Plain Administrator, as designated by the City Engineer; or

- Preliminary Elevation Certificates (North American Vertical Datum [NAVD] 1988) for each proposed structure based on construction documents to the Chief Building Official; or
- For nonresidential construction only, a preliminary Floodproofing Certificate based on construction documents to the Chief Building Official.

Standard Condition 2.12 (Water Quality – Notice of Intent)

Prior to the issuance of preliminary or precise grading permits for a project that would result in soil disturbance of one or more acres of land, the applicant shall provide the Chief Building Official with evidence that a Notice of Intent (NOI) has been filed with the State Water Resources Control Board. Such evidence shall consist of a copy of the NOI stamped by the State Water Resources Control Board or the Regional Water Quality Control Board, or a letter from either agency stating that the NOI has been filed.

Standard Condition 2.13 (Water Quality Management Plan)

Prior to the issuance of preliminary or precise grading permits, the applicant shall submit to the Chief Building Official for review and approval, a WQMP that would identify the BMPs and the full capture system that would be used on the site to control predictable pollutant runoff, and to meet Statewide Trash Provisions requirements.

Standard Condition 3.3 (Disclosure Statements)

Prior to the issuance of building permits, the applicant shall submit to the Director of Community Development for review and approval a completed occupancy disclosure form for the project. The approved disclosure form, along with its attachments, shall be included as part of the rental/lease agreements and as part of the sales literature for the project. The disclosure statement shall include information, current as of the date of submittal, with respect to each item marked with an "x" on the list below. The items marked "n/a" need not be included.

- Information on Noise resulting from aircraft and/or helicopter operations from John Wayne Airport.
- Reference to Emergency Preparedness information available on the City of Irvine website at www.cityofirvine.org/office-emergency-management.
- Map of Special Flood Hazard Area information for areas subject to inundation.
- Notice that initial occupancy and any subsequent change in use or occupancy of any nonresidential condominium space, requires the buyer or the new or existing occupant to apply to the Community Development Department and obtain approval by way of a of written zoning confirmation letter or obtain a building permit and obtain inspection approval for any necessary work to establish the use and/or occupancy consistent with that intended.
- Notice that the property owner shall be responsible for continuous maintenance of the emergency access equipment thus ensuring these systems will be operational at all times, as required by the Chief of Police.

- Notice that the property is located near and/or adjacent to private and/or public park(s) that may include recreational, field/court lighting, and other related improvements.
- Notice that the property is located near and/or adjacent to public open space land that may include trails, trailheads, parking facilities, and other related improvements and operations.
- Notice that the property is located near and/or adjacent to public trails and/or related improvements and operations.
- Notice that residential buildings such as single-family homes, condominiums and apartments are prohibited from being used as short-term rentals (aka vacation rentals). A rental arrangement for a term of less than 31 days is considered "short-term". For more detailed information contact the Community Development Department.

Standard Condition 3.4 (Special Flood Hazard Area)

Prior to the issuance of a building permit for any structure wholly or partially located within the floodplain (FP 2 District) of the Special Flood Hazard Area (SFHA), the applicant shall submit one of the following:

- The final approved Letter of Map Revision (LOMR) to the Flood Plain Administrator, as designated by the City Engineer; or
- Preliminary Elevation Certificates (based on North American Vertical Datum [NAVD] 1988) for each proposed structure based on construction documents to the Chief Building Official; or
- For nonresidential construction only, a preliminary Floodproofing Certificate for each building or structure based on construction documents showing floodproofing measures complying with adopted codes and standards and approved by the Chief Building Official.

Standard Condition 4.5 (Special Flood Hazard Area)

Prior to authorization to use, occupy, and/or operate, for any structure wholly or partially located within the Special Flood Hazard Area (SFHA, FP 2 District), the applicant shall submit one of the following:

- The final approved Letter of Map Revision (LOMR) to the Flood Plain Administrator, as designated by the City Engineer; or
- Final Elevation Certificates (based on North American Vertical Datum [NAVD] 1988) for each structure based on finished floor construction to the Chief Building Official; or
- For nonresidential construction only, a final Floodproofing Certificate for each building or structure based on completed construction.

g. Local Implementation Plan

Section A-7 of the Local Implementation Plan (LIP) has incorporated DAMP Section 7, which addresses new development and significant redevelopment. This approval processing framework ensures that both development and redevelopment occur in an organized and orderly manner that reflects the vision and needs of the community, assesses the environmental issues associated with

the proposed changes and provides a regulatory framework to ensure that standards set by the City are implemented and water quality requirements in the City's NPDES Permit are incorporated in the City's regulatory framework. The Model Water Quality Management Plan and the Technical Guidance Document provide the basis for project planning and design.

The City has also incorporated the model construction program described in DAMP Section 8 as the basis for Section A-8 of the LIP. This construction program presents requirements and guidelines for pollution prevention methods that must be used by construction site owners, developers, contractors, and other responsible parties, in order to prevent illicit discharges into the municipal storm drain system, implement and maintain structural and non-structural BMPs to reduce pollutants in storm water runoff discharged to the municipal storm drain system from construction sites, reduce construction site discharges of storm water pollutants from the municipal storm drain system to the maximum extent practicable, and prevent construction site discharges from the municipal storm drain system from causing or contributing to a violation of water quality standards in the receiving waters.

h. Sustainability in Landscaping Guideline Manual

The goal of the Sustainability in Landscaping Program is to ensure that environmental impacts and benefits of landscaping are considered throughout the planning and design process and will result in sustainable landscapes. The ordinance defines a sustainable landscape as one that provides positive levels of carbon storage and oxygen productivity after all demands for energy, water, soil improvement and maintenance activities to support have been accounted for. Concept plans and village-wide zone change applications require a proposed landscape design and management objectives which are consistent with the landscape manual. The manual includes design guidelines pertaining to: landscape productivity, plant associations, energy conservation, water conservation, microclimate improvement, and soil management.

i. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the project and will help to reduce and avoid potential impacts related to hydrology and water quality:

- PPP HYD-1 Compliance with General Construction Permit
- PPP-HYD-2 Compliance with Section 303(d) of the federal Clean Water Act
- PPP-HYD-3 Compliance with the Santa Ana RWQCB Regional Water Quality Control Plan
- PPP-HYD-4 Compliance with the OCWD groundwater management plan
- PPP-HYD-5 Compliance with Orange County Municipal Water Stormwater Permit and Orange County Drainage Area Management Plan (DAMP)
- PPP-HYD-6 Compliance with the OCFCD San Diego Creek 19999 Regional Flood Control Master Plan
- PPP-HYD-7 Compliance with the IRWD Water Resources Master Plan
- PPP-HYD-8 Compliance with the IRWD Urban Water Management Plan (UWMP)

- PPP-HYD-9 Compliance with the City of Irvine Local Hazard Mitigation Plan
- PPP-HYD-10 Compliance with Municipal Code Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code)
- PPP-HYD-11 Compliance with Municipal Code Title 6 (Public Works), Division 8 (Pollution), Chapter 3 (Stormwater/Urban Runoff)
- PPP-HYD-12 Compliance with the City Grading Manual
- PPP-HYD-13 Compliance with City Standard Condition 2.7 Groundwater Survey
- PPP-HYD-14 Compliance with City Standard Condition 2.11 Special Flood Hazard Area
- -PPP-HYD-15 Compliance with City Standard Condition 2.12 Water Quality – Notice of Intent
- PPP-HYD-16 City Standard Condition 2.13 Water Quality Management Plan
- PPP-HYD-17 City Standard Condition 3.3 Disclosure Statements
- PPP-HYD-18 City Standard Condition 3.4 Special Flood Hazard Area
- PPP-HYD-19 City Standard Condition 4.5 Special Flood Hazard Area
- PPP-HYD-20 Compliance with Local Implementation Plan (LIP)
- PPP-HYD-21 Compliance with sustainability in Landscaping Guideline Manual

Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed goals, objectives, policies, and implementation actions are applicable to the analysis of hydrology and water quality and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Safety Element

Goal 2: Improve the community's resilience to seismic and geologic hazards by ensuring the integrity of the built environment.

Objective S-2: Seismic and Geologic Hazards. Anticipate the risks and mitigate the effects that seismic and egologic hazards pose to the community. The following policies support Goal 2:

- Policy S-2(b): Coordinate groundwater management with Orange county Water District to avoid subsidence impacts in Irvine.

Goal 3: Anticipate the risks and mitigate the effects that flood hazards pose to the community.

Objective S-3: Flood Hazards. The following policies support Goal 3:

- Policy (a): Work with Orange County Flood Control District to ensure flood control facilities are adequately provided and maintained.
- Policy (b): Collaborate with partner agencies and municipalities to align green infrastructure projects (i.e., projects that allow for filtration of stormwater where it falls) and develop regulations for watersheds across jurisdictions to reduce impervious hard surfaces.
- Policy (c): Support efforts of other organizations and academic institutions to conduct studies of the impact combined riverine and coastal flooding, groundwater intrusion, and increased precipitation has on flood risk and vulnerability.

- **Policy (d)**: Support efforts of other organizations and academic institutions to inventory and map vegetation on hillsides with a specific focus on improving hillside stability in the case of extreme rainfall and seasonal erosion.
- **Policy (e)**: Develop or update a long-term plan to address current and future flood risk to critical facilities.
- **Policy (f)**: Continue to partner with Orange County Public Works to proactively disseminate information from the "H2OC Stormwater Program" to educate home and small business owners on regulations and highlight the role that engaged residents can play to assist with community-based stormwater management.
- **Policy (g)**: Ensure resilience and long-term functionality of stormwater and sewer systems.
- **Policy (h)**: Encourage the use of climate-smart landscaped surfaces (e.g., permeable pavement, stormwater parks, green streets) in new and existing development to reduce runoff, minimize flood hazards, and maintain existing drainageways.
- **Policy (i)**: Continue to encourage the implementation of low-impact development (e.g., rain gardens and rainwater harvesting) to reduce flood risk, filter pollutants, and replenish groundwater over time.)
- **Policy (j)**: Continue to promote the application of nature-based solutions (e.g., greenways, tree trenches) to improve resilience and preserve biodiversity.
- **Policy (k)**: Coordinate with other agencies to increase the public awareness of flooding, stormwater management, and drought management issues and techniques for residents to mitigate those challenges on their property.

Goal 5: Protect the community from the threat of drought and extreme heat.

Objective S-5: Drought and Extreme Heat. The following policies support Goal 5:

- **Policy (a)**: Collaborate with federal, State, and local agencies and organizations to explore alternative water sources (e.g., desalinization) and improve capacity in consideration of increased demand and drought.
- **Policy (b)**: Continue to support Irvine Ranch Water District's recycled water program and explore opportunities to enhance water recycling.
- **Policy (c)**: Continue to support and participate in the development of a regional and local drought contingency plan.
- **Policy (d)**: Encourage drought-tolerant native landscaping, low-flow water fixtures beyond the state minimum code, and daytime watering restrictions on properties throughout the City to reduce water consumption.
- **Policy (e)**: Explore the feasibility of recycled water distribution for residential uses on all lot sizes.
- **Policy (f)**: Protect groundwater supply against contamination, degradation, or loss due to flooding.
- **Policy (g)**: Promote a system for rapidly detecting, reporting, and repairing water leaks in public facilities and the water conveyance system.
- **Policy (h)**: Promote nature-based methods and best management practices (BMPs) (e.g., bioswales, rain gardens, natural ground cover) through the City's stormwater program to promote groundwater infiltration and reduce the impacts of drought.

- Policy (i): Support regional partners in education and outreach efforts focused on water conservation measures (e.g., water reuse, water use, and irrigation efficiency) for City residents.

4.8.4 Significance Determination Thresholds

The City has adopted Appendix G of the State CEQA Guidelines as the significance thresholds for hydrology and water quality impacts. A project would normally have a significant effect on the environment if the project would:

1) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
2) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    i) result in a substantial erosion or siltation on- or off-site;
    ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
    iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    iv) impede or redirect flood flows;
4) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
5) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.8.5 Methodology

The potential for significant impacts associated with the project has been determined based upon review of existing information and data relative to the hydrology and water quality resources available for the City. Additionally, an existing conditions infrastructure report was prepared for the project that included a review of existing City, local, and federal datasets.

4.8.6 Topic 1: Violate Water Quality Standards/Degrade Water Quality

Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

4.8.6.1 Impact Analysis

Buildout of the project would involve the construction of up to 57,565 residential units, nonresidential uses within the Great Park area, the extension of Ada, and the continuation of nonresidential uses at the same intensities currently permitted under the City's existing General Plan.

Construction activities associated with future development would likely involve grading, paving, utility installation, building construction, and landscaping installation, which could result in the generation of potential water quality pollutants such as silt, debris, chemicals, paints, and other pollutants with the potential to affect water quality. In addition, refueling and parking of construction vehicles and other construction equipment may result in oil, grease, or other related pollutant leaks and/or spills that may discharge into the storm drain system.

To minimize potential water quality impacts during construction, future development would be required to comply with the statewide Construction General Permit (PPP HYD-1; SWRCB 2022), which itself requires preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for projects that disturb one or more acre of land and include any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre (SWRCB 2022). A SWPPP requires the identification and implementation of BMPs to control sediment, erosion, tracking, non-stormwater, and waste management during construction and prevent such contaminants and materials from entering receiving water bodies. Future projects would also be required to comply with the City Grading Code (PPP HYD-10;Title 5, Division 10, Chapter 1), and the City Grading Manual (PPP HYD-HYD-12), which establish erosion control requirements pertaining to construction related water quality impacts including but not limited to erosion control plans and BMPs. The Grading Manual establishes slope angle, stability, fill material, compaction, setback, and other requirements to ensure erosion and pollutant control during construction of future development. Adherence to these requirements during construction would ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged. Therefore, construction impacts associated with future developments are anticipated to be less than significant.

Post-construction activities associated with operation of proposed land uses resulting from adoption of the project may have long-term impacts on stormwater quality, subsequently impacting downstream water quality. For example, future developments could create new sources of runoff contamination from changing land uses and/or from changes in pervious to impervious surfaces. As a result, development proposed throughout the City, and within the three focus areas, may increase post-construction pollutant loadings of constituent pollutants associated with future developments.

To minimize potential post-construction water quality impacts , future priority development projects would be required to prepare WQMPs in accordance with the Model WQMP and incorporate LID principles (PPP HYD-16). As described in Section 4.8.2.3.a of this Draft PEIR, "in general, Priority Projects include new development that creates 10,000 square feet of new impervious surface and significant redevelopment that adds or replaces 5,000 or more square feet of impervious area on an already developed site." A WQMP is required in the following instances: for priority development projects as defined by Section 6-8-301 of the Municipal Code; projects requiring a discretionary action involving approval of a precise plan, including projects that need coordinated and/or early water quality planning; and projects involving a nonresidential plumbing permit having the potential to impact water quality. A WQMP is prepared in accordance with the City's LIP, Model WMP, and any mitigation measures, conditions and/or requirements established under the discretionary approval process. Additionally, General Plan Policies S-3(h), S-3(i), and S-3(j) encourage implementation of erosion control measures, climate-smart landscaped surfaces, implementation of LID, and nature-based solutions to further support the City's goal of preventing and reducing operational stormwater impacts.

Furthermore, drainage patterns would largely be maintained and would utilize existing drainage facilities within the right-of-way. Because the City is primarily developed and because the three focus areas are largely urban in nature, new development would likely be development under buildout conditions. Therefore, overall operational impacts relating to stormwater quality would be less than significant.

4.8.6.2 Significance of Impacts

Adherence to the applicable laws, standards, and requirements listed above would prevent the project from violating any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Accordingly, impacts would be less than significant.

4.8.6.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.8.7 Topic 2: Deplete Groundwater Supplies

Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

4.8.7.1 Impact Analysis

As described in section 4.8.1.4 above, the City and its sphere of influence are located within Basin 8-1, which is classified as a medium priority basin, due to heavy reliance on the Basin's groundwater as a source of water supply. There are minimal stormwater recovery systems. IRWD captures dry weather runoff via Peters Canyon Channel Water Capture and Reuse project (three intersections in

the channel are used to capture and send dry weather runoff to Orange County Sanitation District for treatment and eventual recharge into groundwater sources).

There are existing impacts to groundwater not associated with the project, including high levels of salt in portions of the groundwater table, TCE beneath the former MCAS El Toro, elevated nitrates resulting from agricultural uses and wastewater disposal, and selenium accumulation due to farming. Further discussion and treatment of these groundwater issues is described in section 4.8.1.4 above.

Buildout of the project would involve the construction of up to 57,565 residential units, nonresidential uses within the Great Park area, the extension of Ada, and nonresidential uses at the same intensities as permitted under the City's existing General Plan. Future development would increase impervious surfaces within the City, which would reduce the amount of rainwater that would infiltrate the soil and incrementally reduce groundwater recharge rates over time. However, the project has been designed to minimize the increase in impervious surfaces by primarily focusing future development and redevelopment within the proposed focus areas (which are existing urbanized areas), thereby reducing the amount conversion of permeable land to impermeable surfaces which would otherwise occur with more development concentrated outside of the focus areas. Additionally, future development both inside and outside of the focus areas under the project would be required to comply with federal, state, regional and local plans, programs, and policies pertaining to groundwater described in detail in section 4.8.2 above.

All future site-specific projects would be required to comply with the OCWD groundwater management plan (PPP HYD-4) . Pursuant to the Santa Ana Region (North Orange County) NPDES Permit, future development under the project would also be required to comply with WQMP new development and significant redevelopment requirements and would also be required to prepare a groundwater survey per City Standard Condition 2.7 (PPP HYD-13) prior to the issuance of precise grading permits, which would identify potential for groundwater intrusion, groundwater buildup, groundwater impact to building and structural foundations, and proposed site-specific mitigation to avoid potential for groundwater intrusion within five feet of the bottom of footings. Additionally, General Plan policies S-2(b), S-3(i), S-5(b), S-5(c), S-5(d), S-5(f), S-5(g), S-5(h), and S-5(i) within the Safety Element all support the integrity and conservation of existing groundwater supplies. Implementation of post-construction BMPs and LIDs established via a WQMP, described in more detail in Section 4.8.6.1 above, in accordance with PPP-HYD-16 would increase groundwater infiltration and replenishment, thus reducing groundwater related impacts. Therefore, construction and operation of future development projects facilitated by project approval would not interfere substantially with groundwater recharge.

4.8.7.2 Significance of Impacts

Adherence to the applicable laws, standards, and requirements listed above (including PPP HYD-4 and HYD-13) would prevent the project from substantially depleting groundwater supplies and interfering substantially with groundwater recharge, and impacts would be less than significant.

4.8.7.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.8.8 Topic 3: Drainage Patterns

Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in a substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows?

4.8.8.1 Impact Analysis

As previously described, the City is largely developed and there are no major areas of undeveloped land. Future residential and residential mixed-use development associated with the project would largely be concentrated within three primary focus areas, which are characterized by urban and developed environments. Specifically, buildout of the project would involve the construction of up to 57,565 residential units, nonresidential uses within the Great Park area, the extension of Ada, and the continuation of nonresidential uses at the same intensities as permitted under the City's existing General Plan

a. Erosion, Siltation, and Increased Surface Runoff

Future development under the project would have the potential to result in increased erosion or siltation both on- and off-site during construction and operation of future development. The alteration of drainage patterns and increase in runoff associated with the addition of impervious surfaces and structures can increase the frequency and amount of flooding which in turn could potentially result in an accelerated rate of erosion and siltation through the watershed.

The statewide General Construction Permit (PPP HYD-1; SWRCB 2022) requires preparation and implementation of a SWPPP for projects that would disturb one or more acres and include construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre (SWRCB 2022). The SWPPP would provide construction related BMPs to reduce erosion, siltation, and runoff-related impacts resulting from construction associated with future development.

Operation of future development under the project, both within the focus areas and throughout the City, would have the potential to increase surface runoff and change stream-flow velocities or quantities. Although future site-specific development would be located primarily in the three focus areas, which are urbanized areas, the potential exists to affect downstream properties if drainage patterns are changed.

For smaller infill projects that would not substantially increase impervious surface area, compliance with City stormwater requirements would reduce operational impacts. Larger site-specific projects involving substantial changes in drainage patterns, impervious surfaces, and resulting surface runoff, require preparation of a hydrology or drainage study to determine the pre- and post-construction peak runoff flow rates and velocities exiting the project site, as well as the potential for siltation and

erosion for sites discharging to naturally lined waterbodies. Post-construction erosion and siltation resulting from increased runoff would generally be avoided or reduced through site design and hydromodification control BMPs as required per PPP-HYD-3, PPP-HYD-5, PPP-HYD-10, PPP-HYD-12, and PPP-HYD-16. Projects would also be required to adhere to the City's Municipal Code (PPP-HYD-10, PPP-HYD-11), Standard Conditions (PPP-HYD-14, PPP-HYD-15), Grading Manual (PPP-HYD-12), to reduce erosion, siltation and other runoff-related impacts. Additionally, General Plan Safety Element Policies S-3(b), S-3(e), S-3(f), S-3(h), S-3(i), S-3(j), S-3(k), S-5(d), S-5(f), S-5(h), and S-5(j) would further the City's goals of reducing erosion and siltation impacts resulting from operation of future development associated with the project by increasing groundwater infiltration.

Future site-specific development projects would also be required to prepare a WQMP and identify hydromodification control BMPs to address any hydrologic conditions of concern identified that impact downstream channels and aquatic habitats. As described in more detail in Section 4.8.6.1 above, a WQMP is required for priority projects which typically include new development that creates 10,000 square feet of new impervious surface and significant redevelopment that adds or replaces 5,000 or more square feet of impervious area on an already developed site.

Therefore, compliance with existing regulations addressing stormwater runoff-related impacts would reduce potential project-related construction and operational impacts to existing drainage patterns in the area to a level less than significant.

b. Exceed Capacity of Stormwater System

Operation of future development associated with the project could result in increased impervious surfaces resulting in increased volumes of storm water runoff affecting the existing storm water drainage system. Most rainfall becomes runoff because there are minimal opportunities for infiltration in developed areas, resulting in high peak flow rates for short durations. Although future development under the project would largely occur within the three focus areas, future development may result in an increase in impervious surfaces with the potential to change runoff characteristics, including the volume of runoff, rate of runoff, and drainage patterns, which could result in flooding.

Future development would be required to comply with PPP-HYD-11, PPP-HYD-16, and PPP-HYD-14 which outline provisions for the control of stormwater/urban runoff from new development and significant redevelopment. To minimize potential post-construction stormwater capacity impacts, future priority development projects would also be required to prepare WQMPs in accordance with the Model WQMP and incorporate LID principles. As described in Section 4.8.2.3.a of this PEIR "In general, Priority Projects include new development that creates 10,000 square feet of new impervious surface and significant redevelopment that adds or replaces 5,000 or more square feet of impervious area on an already developed site." A WQMP is required in the following instances: for priority development projects as defined by Section 6-8-301 of the Municipal Code; projects requiring a discretionary action involving approval of a precise plan, including projects that need coordinated and/or early water quality planning; and projects involving a nonresidential plumbing permit having the potential to impact water quality. Additionally, General Plan Safety Element Policies S-3(h), S-3(i), and S-3(j) encourage implementation of erosion control measures, climate-smart landscaped surfaces, implementation of low-impact development (LID), and nature-based solutions to allow for increased groundwater infiltration and reduced stormwater impacts. Compliance with existing

regional and local requirements addressing stormwater would reduce and avoid potential stormwater related impacts to a less than significant level.

c. Flood Flows

Operation of future development associated with the project could increase volumes of stormwater runoff, as described in Section 4.8.8.1.a and Section 4.8.8.1.b above, resulting in the impediment or redirection of flood flows. As described above, future development would be required to adhere to the NPDES requirements to control direct stormwater discharges, and to Title 6, Division 8, Chapter 3 of the City's Municipal Code, which outlines the provisions for the control of stormwater/urban runoff from new development and significant redevelopment. All future development would include BMPs to manage polluted runoff and minimize flow volume and velocity. Compliance with the described PPPs, including those requiring implementation of BMPs and LIDs which increase groundwater infiltration thereby reducing flood flows, would reduce potential flooding impacts to a less than significant level.

4.8.8.2 Significance of Impacts

Construction and operation of future projects facilitated by project approval would be required to comply with applicable state, regional, and local regulations (PPPs HYD-1 through HYD-16). Compliance with these regulations would ensure that the project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces. Therefore, impacts would be less than significant.

4.8.8.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.8.9 Topic 4: Flood hazard, Tsunami, or Seiche

In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

4.8.9.1 Impact Analysis

The project is not located within a tsunami or seiche zone. Therefore, there are no potential impacts related to tsunamis. Hazardous conditions related to a seiche within North Lake or South Lake in the Woodbridge community are unlikely given the small size of the lakes and the height of the banks surrounding the lakes. No other enclosed waterbodies where a seiche could occur exist within the city (City of Irvine 2024a).

As shown in Figure 4.8-4 above, portions of the City are in areas mapped as FEMA flood zones, including 211.78 acres of Focus Area 1, 195.85 acres of Focus Area 2, and 279.65 acres of Focus Area 3.

Future development within areas mapped as flood zones would be required to comply with compliance measures as specified by City Planning Commission Resolution No. 09-2968 with respect to Special Flood Hazard Areas (PPP-HYD-14). These include obtaining an approved LOMR, a Preliminary Elevation Certificate (NAVD 1988) for each proposed structure based on construction documents to the Chief Building Official, or for nonresidential construction, a preliminary Floodproofing Certificate based on construction documents to the Chief Building Official. These forms of documentation require a project applicant to demonstrate that a future site-specific project would not place future structures at flood risk, would not generate downstream flood risks that could affect other structures, and would not be subject to risks associated with dam failure. Furthermore, the Safety Element Update includes objectives and policies related to flooding. For example, Objective S-3 aims to anticipate flood risks and minimizes the effects that flood hazards pose to the community. Supporting policies include, but are not limited to, actions aiming to improve flood control facilities, developing long-term plans to address flood risks, and partnering with other agencies to collaboratively plan for and mitigate flood risks. Compliance with relevant PPPs (PPP-HYD-5, PPP-HYD-6, PPP-HYD-9, PPP-HYD-14, PPP-HYD-HYD-18, PPP-HYD-19 PPP-HYD-21) would require stormwater management practices and design features that would reduce and avoid potential impacts related to flooding. Therefore, impacts related to the release of pollutants due to project inundation in flood hazard, tsunami, and seiche zones would be less than significant.

4.8.9.2 Significance of Impacts

The project would be required to comply with PPP HYD-5, PPP-HYD-6, PPP-HYD-9, PPP-HYD-14, PPP-HYD-HYD-18, PPP-HYD-19 PPP-HYD-21, which address flooding. Compliance with these regulations would ensure that the project would result in less than significant impacts related to a flood hazard, tsunami, or seiche zones that would risk release of pollutants due to project inundation.

4.8.9.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.8.10 Topic 5: Water Quality Plans

Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

4.8.10.1 Impact Analysis

As described in Section 4.8.1.4 above, the City and its sphere of influence are located within Basin 8-1, which is classified as a medium priority basin, due to heavy reliance on the Basin's groundwater as a source of water supply.

As described in Section 4.8.6 and 4.8.7 above, future development associated with the project has been designed to minimize the increase in impervious surfaces by primarily focusing future development and redevelopment within the proposed focus areas which are existing urbanized areas, thereby reducing the amount conversion of permeable land to impermeable surfaces. For example, all future site-specific projects would be required to comply with the OCWD groundwater

management plan (PPP-HYD-4). Pursuant to the Santa Ana Region (North Orange County) NPDES Permit (PPP-HYD-1), future development under the project would also be required to comply with WQMP requirements for new development and significant redevelopment and would also be required to prepare a groundwater survey per City Standard Condition 2.7 (PPP-HYD-13) prior to the issuance of precise grading permits, which would identify potential for groundwater intrusion, groundwater buildup, groundwater impact to building and structural foundations, and proposed site-specific mitigation to avoid potential for groundwater intrusion within five feet of the bottom of footings.

Additionally, future development under the project would be required to comply with federal, state, regional and local plans, programs, and policies pertaining to groundwater described in detail in Section 4.8.2 above. Specifically, the following PPPs would require implementation and compliance with existing water quality control plans and sustainable groundwater management plans as conditions of approval for future development associated with the project: PPP-HYD-1, PPP-HYD-2, PPP-HYD-3, PPP-HYD-4, PPP-HYD-5, PPP-HYD-7, PPP-HYD-8, PPP-HYD-9, PPP-HYD-11, PPP-HYD-12, PPP-HYD-13, PPP-HYD-15, PPP-HYD-16, PPP-HYD-17, and PPP-HYD-20. Compliance with the existing PPPs would necessitate compliance and implementation of the existing water quality control plan and sustainable groundwater management plan, therefore impacts would be less than significant.

4.8.10.2 Significance of Impacts

Construction and operation of the project would comply with PPPs HYD-1 through HYD-5, PPP HYD-7 through HYD-9, PPP HYD-11 through HYD-17, and PPP-HYD-20, which require compliance and implementation of existing water quality control plans and sustainable groundwater management plans. Therefore, the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan, and impacts would be less than significant.

4.8.10.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.8.11 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for hydrology and water quality. The study area for the assessment of cumulative impacts related to hydrology and water quality is the City. While future development under the project could increase the total amount of pollutants entering downstream rivers and water bodies and could increase rates and volumes of storm water runoff due to new impermeable surfaces, site-specific projects would be subject to the regulatory requirements described above. Specifically, future development would adhere to the requirements of the City's Municipal Permit, Municipal Code, Standard Conditions and Grading Manual, and would be required to prepare WQMPs to identify BMPs directed at pollution reduction and the maintenance of on-site drainage patterns. Additionally, adherence to the requirements of the joint NPDES Permit

from the Santa Ana RWQCB would avoid cumulative impacts due to the regional nature of these water quality planning documents. Future development within a Special Flood Hazard Area would need to obtain documentation demonstrating that future site-specific project would not place future structures at flood risk, would not generate downstream flood risks that could affect other structures, and would not be subject to risks associated with dam failure per PPP-HYD-17, PPP-HYD-18, and PPP-HYD-19. Moreover, the project would not result in flood hazards related to tsunami or seiche. Therefore, the project would not contribute to cumulative impact related to hydrology and water quality.

4.9 Land Use/Planning

This section analyzes potentially significant impacts related to land use and planning that could result from implementation of the project.

4.9.1 Existing Conditions

The City of Irvine (City) adopted its first General Plan in December 1973, and the last comprehensive update was completed in 2000. The General Plan has been updated over the years to address necessary General Plan amendments. With the adoption of the certified 2021-2029 Housing Element in May 2022, the City is required to update the appropriate elements of the General Plan to accommodate the residential site inventory from the 2021-2029 Housing Element (6th Cycle). Specifically, the updated General Plan address the additional 57,656 units needed to meet the City's 6th Cycle Housing Element Regional Housing Needs Assessment (RHNA). Other updates to the General Plan are also proposed to reflect changes in state law.

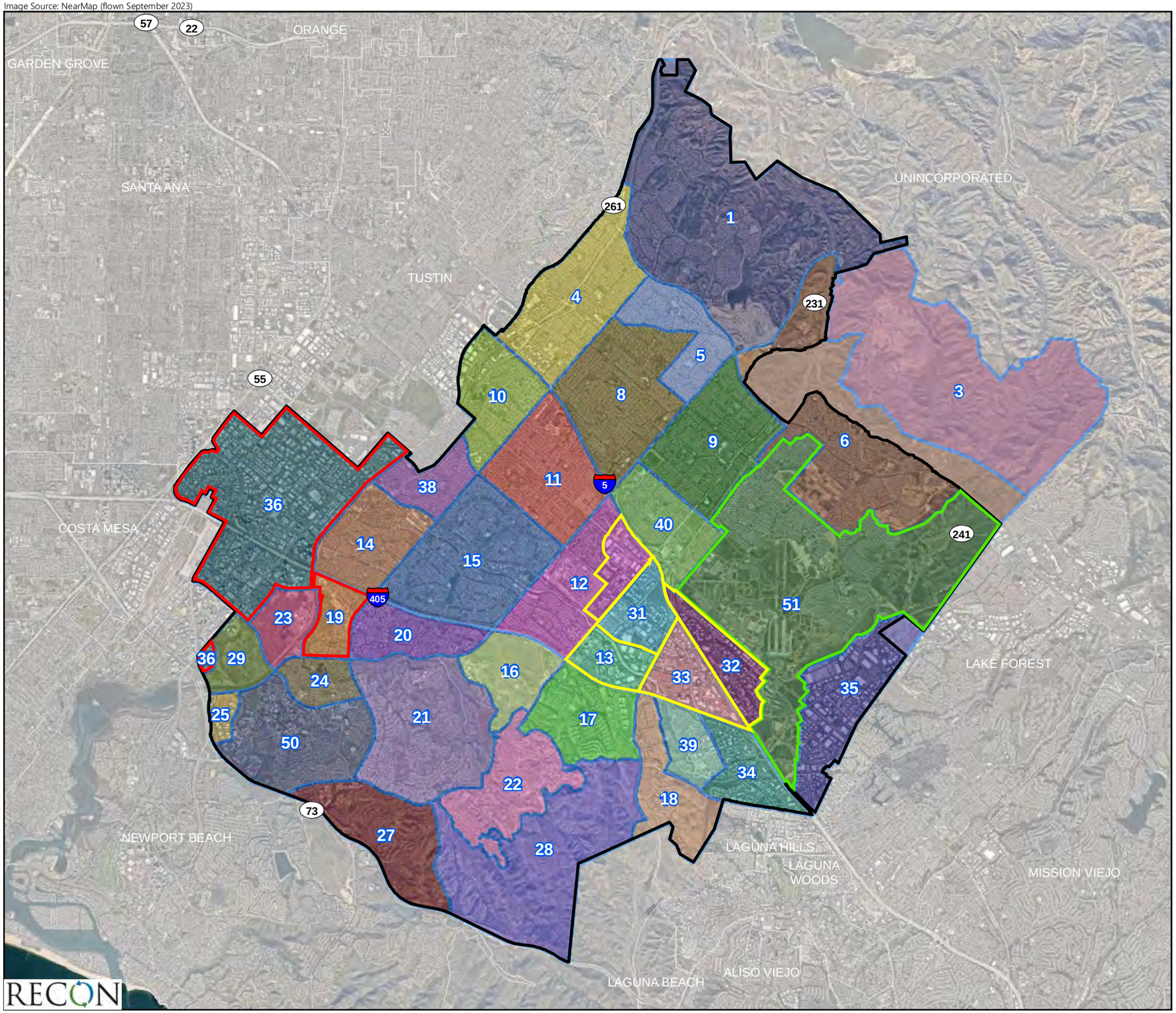
4.9.1.1 Existing Land Uses

The City is divided into a series of master-planned communities or neighborhoods called planning areas (otherwise referred to as "villages"), with each planning area having its own character and development goals (Table 4.9-1). Figure 4.9-1 presents the locations of the planning areas throughout the City.

Residential growth has primarily been concentrated within the northern and central flatlands of the City, with some residential uses in the northern and southern hillside areas. Prior to 2000, residential development has primarily been concentrated within the central portions of the City, known as the residential core. More recent residential growth has been concentrated within or near the job centers of the Irvine Business Complex (IBC), Irvine Spectrum, and Great Park areas. Employment growth (e.g., commercial, retail, office, industrial) has been concentrated adjacent to regional transportation facilities (e.g., John Wayne Airport, Interstate-5 and Interstate-405, Irvine Station) on the western and eastern edges of the City (i.e., Planning Area 35: Irvine Spectrum, Planning Area 36: Irvine Business Complex).

Land use issues can be divided into two general categories: land use compatibility and land use consistency. Land use compatibility addresses the placement of new sensitive land uses (e.g., residential, parks, schools, assisted living facilities, childcare, and hospitals) near sources of air pollutants, odors, and noise, and the placement of new industrial/commercial land uses near sensitive land uses. Land use consistency addresses the consistency or compliance of a site-specific project with adopted goals and policies described in Section 4.9.2 below. Land use consistency and compatibility are assessed in Section 4.9.5

Image Source: NearMap (flown September 2023)



- Irvine City Boundary
- Focus Area 1
- Focus Area 2
- Focus Area 3

Planning Area

- 1 | Orchard Hills
- 3 | Limestone Canyon
- 4 | Lower Peters Canyon
- 5 | Northwood Point
- 6 | Portola Springs
- 8 | Northwood
- 9 | Woodbury and Stonegate
- 10 | Walnut
- 11 | El Camino Real
- 12 | Oak Creek
- 13 | Irvine Spectrum 4
- 14 | Westpark
- 15 | Woodbridge
- 16 | Quail Hill Open Space
- 17 | Quail Hill
- 18 | Laguna Altura
- 19 | Rancho San Joaquin
- 20 | University Park
- 21 | Turtle Rock
- 22 | Shady Canyon
- 23 | San Joaquin Marsh
- 24 | University Town Center
- 25 | University Research Center
- 27 | Turtle Ridge
- 28 | Bommer Canyon Open Space
- 29 | UCI North Campus
- 31 | Irvine Spectrum 6
- 32 | Irvine Spectrum 3
- 33 | Irvine Spectrum Center
- 34 | Irvine Spectrum 5
- 35 | Irvine Spectrum 2
- 36 | Irvine Business Complex
- 38 | Westpark II
- 39 | Los Olivos
- 40 | Cypress Village
- 50 | University of California, Irvine
- 51 | Orange County Great Park

0 Miles 1.5

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FIGURE 4.9-1
Planning Areas

Table 4.9-1 Planning Areas	
Number	Plan Area
PA 1	Orchard Hills
PA 3	Limestone Canyon
PA 4	Lower Peters Canyon
PA 5	Northwood Point
PA 6	Portola Springs
PA 8	Northwood
PA 9	Woodbury and Stonegate
PA 10	Walnut
PA 11	El Camino Real
PA 12	Oak Creek
PA 13	Irvine Spectrum 4
PA 14	Westpark
PA 15	Woodbridge
PA 16	Quail Hill Open Space
PA 17	Quail Hill
PA 18	Laguna Altura
PA 19	Rancho San Joaquin
PA 20	University Park
PA 21	Turtle Rock
PA 22	Shady Canyon
PA 23	San Joaquin Marsh
PA 24	University Town Center
PA 25	University Research Park
PA 27	Turtle Ridge
PA 28	Bommer Canyon Open Space
PA 29	UCI North Campus
PA 31	Irvine Spectrum 6
PA 32	Irvine Spectrum 3
PA 33	Irvine Spectrum Center
PA 34	Irvine Spectrum 5
PA 35	Irvine Spectrum 2
PA 36	Irvine Business Complex
PA 38	Westpark II
PA 39	Los Olivos
PA 40	Cypress Village
PA 50	University of California , Irvine
PA 51	Great Park
PA = Planning Area	

4.9.2 Applicable Regulatory Requirements

This section describes the various planning documents and local planning initiatives that affect the City.

4.9.2.1 State and Regional

a. General Plan

California Planning and Zoning Law requires each city or county to prepare and adopt a comprehensive, long term general plan for the physical development of the City, and of any land outside its boundaries. The law requires the general plan to include the following elements:

1. Land Use Element;
2. Circulation Element;
3. Housing Element;
4. Conservation Element;
5. Open Space Element;
6. Noise Element;
7. Air Quality;
8. Safety Element; and
9. Environmental Justice Element (or policies related to this topic area must be addressed throughout a general plan) is required when there is a designated Disadvantaged Community

Agencies may also include additional optional elements.

The City and its sphere of influence encompass over 66 square miles located within the coastal and foothill region of central Orange County. Existing General Plan elements regulating development within the City and its sphere of influence include the land use, circulation, housing, seismic, cultural resources, noise, public facilities and services, integrated waste management, energy, safety, parks and recreation, conservation and open space, growth management, and Irvine Business Complex elements.

The City adopted a certified 2021-2029 Housing Element in May 2022 and is required to update the appropriate elements of the General Plan to accommodate the residential site inventory from the 2021-2029 Housing Element. This includes updates to the land use element and the circulation element. The City will also make updates to the open space element, safety element, and noise element to address statutory requirements, and will combine existing optional elements into the updated state-required elements The City will also introduce an optional environmental protection and climate action element. The updated General Plan will provide long-term policy direction and communicate the vision, values, and goals for the City's physical development and overall quality of life.

Proposed General Plan Updates:

Mandated Elements:

- Land Use
  Incorporates information from existing Growth Management and Irvine Business Complex Elements
- Circulation
- Housing
- Conservation and Open Space
  Incorporates information from existing Parks and Recreation, Public Facilities and Services, and Cultural Resources Elements
- Noise
- Safety (includes information from Seismic Safety Element)

Optional Elements:

- Environmental Protection and Climate Action Element
  Incorporates information from existing Energy, Public Facilities and Services, and Integrated Waste Management Elements

b. Subdivision Map Act

The Subdivision Map Act is a California state law established in 1972 that requires governments to review and approve land divisions. This law allows governments to regulate growth and establishes multiple types of land divisions. The law created a standard approval process to regulate subdivisions and ensure that infrastructure for new development is adequately funded. The map depicts required land improvements such as sidewalks, storm drains, and roads.

c. California Coastal Act

The California Coastal Act of 1976 established the California Coastal Commission to regulate the use of land and water in the coastal zone. Development activities, which are broadly defined by the Coastal Act to include construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government.

The Coastal Act addresses issues including shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fishers, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works. It is implemented at the local and regional level via a Local Coastal Plan.

4.9.2.2 Regional Plans and Projects

a. Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy: Connect SoCal

The Southern California Association of Governments (SCAG) is responsible for developing long-range transportation plans and a Sustainable Communities Strategy for the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. Connect SoCal 2020-2045 is a Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Connect SoCal also includes a Regional Housing Supportive Infrastructure strategy.

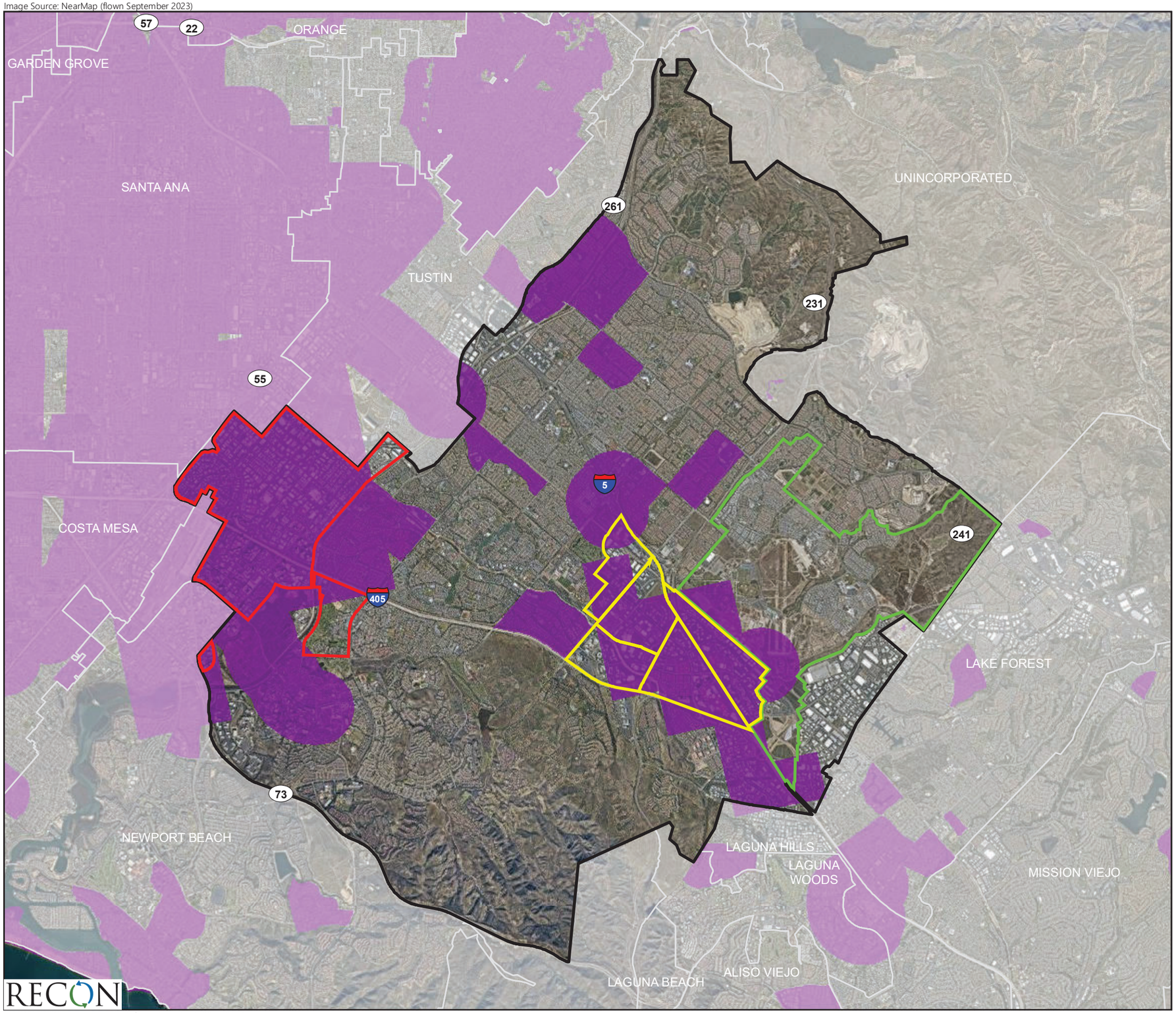
The SCS recommends several land use tools that can be implemented at the local level to promote human-scale, compact and pedestrian-oriented development. These tools represent a menu of options that local jurisdictions are encouraged to utilize, however, are not bound to implementing. The tools include:

1. Center Focused Placemaking
2. Transit Priority Areas
3. High Quality Transit Areas
4. Spheres of Influence
5. Transfer of Development Rights
6. Urban Greening
7. Greenbelts & Community Separators

Connect SoCal implements the Federal Transportation Improvement Program, State Transportation Improvement Program, Interregional Transportation Program, and Regional Transportation Improvement Program and includes a project list for roadway improvement projects. Figure 4.9-2 shows Transit Priority Areas as defined by SCAG.

It should be noted that SCAG is currently in the process of updating this document and recently released the draft Connect SoCal 2024 for review and comment. The final Connect SoCal 2024 document is expected to go to the Regional Council for adoption in April 2024.

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3
Priority Growth Areas

0 Miles 1.5

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FIGURE 4.9-2
SCAG Priority Growth Areas

b. Southern California Association of Governments Regional Comprehensive Plan

The Regional Comprehensive Plan (RCP) is a voluntary framework that links broad principles to an action plan that moves the region towards collective transportation, housing, environmental, and economic goals. It contains nine chapters focusing on specific areas of planning or resource management including: land use and housing, open space and habitat, water, energy, air quality, solid waste, transportation, security and emergency preparedness, and economy. The document contains strategic initiatives, policies, and potential direct and indirect benefits. It also describes at which level of government or which entity should implement the action: for example, federal, state, regional, local governments, developers, or non-profits. The voluntary RCP was initiated by SCAG in 2008 and has not been updated since, therefore some of the voluntary strategic initiatives and policies may be outdated or are no longer relevant.

c. Airport Environs Land Use Plan John Wayne Airport

In 1975, the Airport Land Use Commission (ALUC) of Orange County adopted the Airport Environs Land Use Plan (AELUP), which was most recently amended in 2008. The AELUP covers John Wayne Airport, Fullerton Municipal Airport, and the Joint Forces Training Base Los Alamitos.

The AELUP is a land use compatibility plan that is intended to minimize adverse impacts to the public associated with aircraft noise, to ensure that people and facilities are not located in areas that are susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable air space. The AELUP identifies development standards for areas within the airport's planning area based on noise contours, accident potential zones, and building heights. ALUC is also authorized under state law to assist local agencies in ensuring land use compatibility in areas adjacent to airports. While ALUC is not an implementing agency in the manner of local governments and does not issue project permits, each local agency having jurisdiction over any area within the airport planning areas is required to submit its general plans for that area to the Airport Land Use Commission for a consistency/inconsistency determination prior to adoption by the local agency in accordance with the Government Code for the State of California, Section 65302.3 and Public Utilities Code Section 21676. The submittals should highlight those areas which address the AELUP noise impact, safety compatibility, and height restriction zones. The only requirement is that the submittals illustrate how local agencies will incorporate the performance standards outlined in the AELUP into their planning, zoning, and development processes.

John Wayne Airport is in the City of Santa Ana in unincorporated Orange County along the western border of the City, adjacent to the IBC. A portion of Focus Area 1 (greater IBC area) is located within the AELUP Airport Planning Areas. Structures in this area are required to abide by land use regulations within the Airport Land Use Plan (Table 4.9-2).

Within the boundaries of the AELUP, a land use may be found to be "inconsistent" with the AELUP if any of the following four conditions would occur:

1. Places people so that they are affected adversely by aircraft noise,
2. Concentrates people in areas susceptible to aircraft accidents,

3. Permits structures of excessive height in areas which would affect adversely the continued operation of the airport, or
4. Permits activities or facilities that would affect adversely aeronautical operations.

The following provides additional information related to each of these four conditions. Any land use which is in conformance with the general policies shall be consistent with the AELUP.

Aircraft Noise

Table 4.9-2
Airport Environs Land Use Plan Limitations on Land Use Due to Noise

Land Use Category	Community Noise Equivalent Level dB					
	55	60	65	70	75	80
Residential (all types): Single and Multi-Family Residences						
Community Facilities: Churches, Libraries, Schools, Preschools, Day-Care Centers, Hospitals, Nursing/Convalescent Homes, & Other noise sensitive uses						
Commercial: Retail, Office						
Industrial						

SOURCE: John Wayne AELUP (2008).

Normally Consistent
Conventional construction methods used. No special noise reduction requirements.

Conditionally Consistent
Must use sound attenuation as required by the California Noise Insulation Standards, Title 25, California Code of Regulations. Residential use sound attenuation required to ensure that the interior CNEL does not exceed 45 dB. Commercial and industrial structures shall be sound attenuated to meet Noise Impact Zone "1" criteria (refer to Section 3.2.3 of the AELUP).

Normally Inconsistent
All residential units are inconsistent unless they are sound attenuated to ensure that the interior CNEL does not exceed 45 dB, and that all units are indoor oriented so as to preclude noise impingement on outdoor living areas.

Aircraft Accidents

A land use may also be found to be inconsistent with the AELUP if it concentrates people in an area susceptible to aircraft accidents. Aircraft accidents are defined as a number of people situated on the ground so as to increase the potential magnitude of a major crash catastrophe (i.e., a larger number of fatalities or injuries than otherwise may occur).

Building Height

Adverse effects of structure height refer to a structure of such height and/or location that its existence would threaten the continued operation of the airport, or would decrease the airport's

utility, such as by creating an obstacle in the flight paths or other aircraft traffic patterns employed at the airport, or by interfering with visual or electronic navigation systems.

Aeronautical Operations

Adverse effects of activities or facilities refers to a land use that would hamper aeronautical operations within the boundaries of the AELUP of an airport by producing or causing excessive glare, light, steam, smoke, dust, or electronic interference, or by attracting birds.

d. Orange County Central and Coastal Natural Community Conservation Plan

In May of 1996, the City, the County of Orange, various other cities, and landowners entered into an agreement to place certain lands within the Natural Community Conservation Plan (NCCP) Reserve and commit to certain responsibilities under this plan. Most of the northeastern part of the City is part of the NCCP. Additional NCCP reserve lands also exist in other parts of the City. Development is limited within the NCCP areas to "Covered Activities" and compatible uses. All proposals for development that are within the NCCP are required to meet these requirements and would be reviewed by the City prior to approval.

e. California Coastal Act

The California Coastal Commission was established by voter initiative in 1972 (Proposition 20) and later made permanent by the Legislature through adoption of the California Coastal Act of 1976. In partnership with coastal cities and counties, the Coastal Commission plans and regulates the use of land and water in the coastal zone. Development activities, which are broadly defined by the Coastal Act to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government.

The Coastal Act includes specific policies that address issues such as shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works. The policies of the Coastal Act constitute the statutory standards applied to planning and regulatory decisions made by the Commission and by local governments, pursuant to the Coastal Act.

4.9.2.3 Local Plans and Projects

a. Existing General Plan (2000)

The City's currently adopted General Plan consists of the land use, circulation, housing, seismic, cultural resources, noise, public facilities and services, integrated waste management, energy, safety, parks and recreation, conservation and open space, growth management, and Irvine Business Complex elements.

As previously noted, the project includes a comprehensive update to the City's General Plan to address increased development capacities needed to meet the City's RHNA requirements and updates needed to address changes in state law that have occurred since the last comprehensive General Plan update in 2000. While the existing vision, policies and objectives guide development and activities within the City, it is important to note that the newly proposed goals, objectives, policies, and implementation actions would serve as the guiding regulations if the project is adopted. These proposed goals, objectives, policies, and implementation actions are described throughout this Program Environmental Impact Report (PEIR) where relevant to each topic area.

Housing Element

The following goals and policies in the 2021-2029 Housing Element have informed development of the project and will affect land use:

Goals:

8.1.1 Goal I: Provide for safe and decent housing for all economic segments of the community.

Policies:

HE-A.1 Identify residential zones where allowable density can be increased or suitable Floor Area Ratio (FAR) specified for affordable housing, including for extremely low-income households.

HE-A.2 Identify commercial and institutional zones where zoning can be changed to allow for mixed-use and/or higher-density residential development.

HE-A.3 Ensure appropriate land use planning and developer mitigation/improvements are provided for adequate infrastructure, services, and facilities to serve existing and future residents.

HE-A.4 Monitor residential construction and the use of residential and mixed-use designated lands. Ensure adequate residential sites are available to meet the City's housing needs.

Goals:

8.1.2 Goal 2: Maximize land utilization for residential development.

Policies:

HE-C.1 Promote infill development in appropriate areas.

Goals:

8.1.7 Goal 7: Improve quality of life and promote placemaking.

Policies:

HE-L.1 Encourage placemaking and public spaces to serve residents of all incomes, interests, ages, physical abilities, and cultures.

HE-L.2 Encourage infill development that includes capital improvements, such as sidewalk repair and lighting improvements.
HE-L.3 Encourage development that includes active transportation infrastructure, such as new and wider sidewalks, trails, and protected bike lanes.
HE-L.4 Continue to preserve existing open space in the City.
HE-L.5 Encourage development that brings new community amenities and services like community meeting spaces, public art, community health clinics, after school programs, and childcare.

Level of Service

Per Senate Bill 743, the California Environmental Quality Act (CEQA) no longer mandates that transportation impacts are evaluated in terms of congestion, or level of service (LOS), and instead measures transportation impacts in terms of vehicle miles travelled (VMT). As such, this PEIR evaluates transportation impacts with respect to VMT. Refer to Section 4.13, Transportation, for additional information on project-related transportation impacts.

The City, as a policy, continues to examine transportation impacts with respect to LOS as a mechanism to determine necessary project-specific infrastructure improvement updates. However, LOS is not reviewed for the purposes of determining transportation impacts under this PEIR. This evaluation would continue under the project, with the following policy update included in the proposed Circulation Element:

Goal 1, Objective C-1:

Policy (c): Develop, on an incremental basis, a vehicular circulation system responding to local and regional access requirements. The following Level of Service (LOS) Standards shall be the goal applied to arterial highways, as shown in Figure B-1 and Figure B-5, which are in the City of Irvine or its sphere of influence, and which are under the City's jurisdiction.

1. LOS "E" or better shall be considered acceptable within the Irvine Business Complex (IBC) Planning Area (PA) 36), Irvine Spectrum Center (PA 33), and at the following three intersections: Bake Parkway and the I-5 northbound off-ramp, Bake Parkway and Marine Way, and Trabuco/Great Park Boulevard and SR-133 southbound ramps.
2. In conjunction with traffic studies for development proposed in Planning Areas 5B, 6, 8A and 9, a LOS "E" standard or better would be considered acceptable for application to intersections impacted in Planning Areas 13, 31, 32, 34, 35 and 39.
3. In conjunction with traffic studies for development proposed in Great Park (PA 51), a LOS "E" standard or better would be considered acceptable for application to intersections impacted in Planning Areas 13, 31, 32, 34, 35 and 39 and a portion of 51.
4. Applicable to 2a and 2b above. LOS "E" or better would be acceptable subject to the following:
    - Preparation, submittal, processing, and approval of a traffic study for the specific subdivision map.

- Level of Service "E" or better will only be considered acceptable for an intersection that does not contain a residential quadrant unless the residential development has a net density of 30 dwelling units per net acre or greater. No Level of Service "E" will be accepted along Sand Canyon except at the Sand Canyon/I-5 Interchange ramps/intersections.

- Participation/funding to an upgraded traffic signal system as defined in the Traffic Management Systems Operations Study (TMSOS) and/or a parking and mobility fund, as applicable and which may be in place at the time of processing of the individual traffic study. The City, in conjunction with the specific traffic study, shall determine the level of participation/funding using criteria and processes developed concurrently.

5. LOS "D" or better shall be considered acceptable within all other areas.

City of Irvine Local Coastal Program

The City of Irvine Local Coastal Program (LCP) was certified by the California Coastal Commission on March 3, 1982.

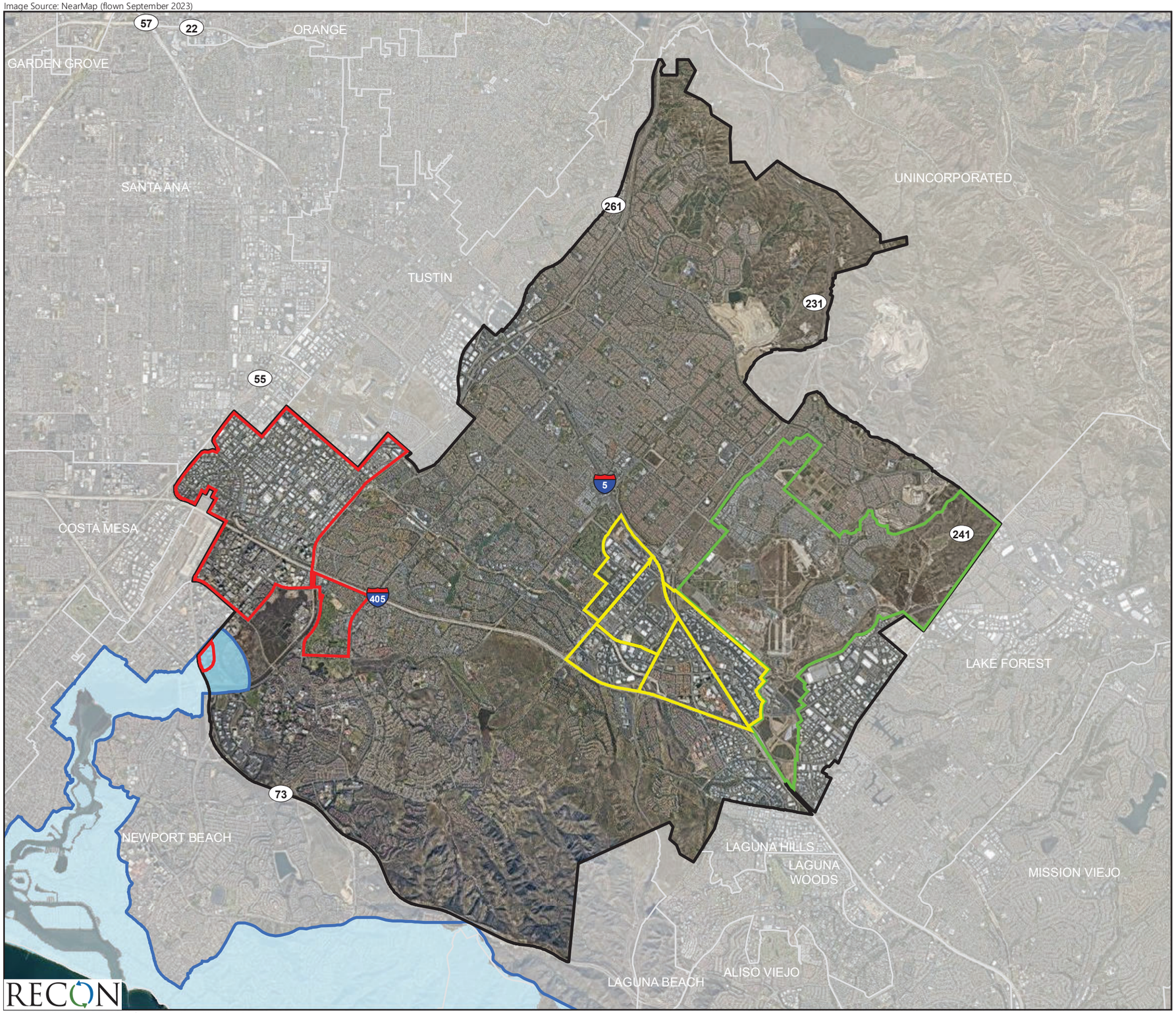
Approximately 250 acres within the City is located within the Coastal Zone, with most of this area dominated by the San Joaquin Marsh, which is owned by the University of California, Irvine, and is therefore not covered by the City's Local Coastal Program. However, a total of 40 acres of land within the IBC area at the intersection of MacArthur and Jamboree is owned by the City and is covered by the Local Coastal Program. The General Plan calls for this area to be restricted to research and light industrial uses. Figure 4.9-3 shows the portion of Irvine that is located within the Local Coastal Program area. All development occurring within this area must demonstrate compliance with the City's General Plan, Local Coastal Program, and Municipal Code.

According to the LCP, new development and public works facilities should not have adverse impacts on coastal resources according to the Coastal Zone Conservation Act of 1976. Regulations related to the LCP are included as Zoning Ordinance Chapter 2-7 Coastal Zone Regulations for Developments Located in Coastal Zone.

Zoning Ordinance

The Zoning Ordinance establishes land use regulations and development standards for the City. Division 9 of the Zoning Ordinance establishes planning areas and zones which are required to be vertically consistent with the General Plan. The Zoning Ordinance establishes over 30 planning areas. These planning areas (PAs) are located within the City, except for PA 3, which is in the unincorporated County within the City's sphere of influence. Each planning area contains various zoning districts and special development requirements that pertain only to those planning areas. Zoning districts establish land use, intensity, and development standards for individual parcels.

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3
Coastal Program Area
Critical Coastal Areas

0 Miles 1.5

M:\JOBS5\9919\common_gis\EIR\fig4.9-3.mxd 02/20/2024 bma

FIGURE 4.9-3
Local Coastal Program Area

b. Parks Master Plan

The City's Parks Master Plan was adopted in 2017. The Master Plan helps guide the future maintenance, development, and operation of the City's parks and recreation system for the next 10 years. It highlights opportunities for enhancing the City's public parks, park facilities, and recreation programs to respond to evolving resident needs. The plan focuses on projects for public parks, park facilities, and recreation programs that may enhance the public experience and respond to evolving needs and expectations. The Master Plan also includes criteria that assists in the identification of projects to include in the annual Capital Improvement Program budget.

c. Parks and Park Facilities Standards

The purpose of the Parks and Park Facilities Standards is to establish park development standards for guidance in acceptance of park land, collection of park fees, or provision of in lieu improvements, and criteria for design of public and private parks. The City's General Plan and Subdivision Ordinance require developers to dedicate park land and/or improvements/amenities, and/or pay fees in lieu of dedication, at a rate of five acres per thousand population (General Plan, Element K and Subdivision Ordinance, Section 5-5-1004). The City's public park system is divided into two park categories: community parks and neighborhood parks. Neighborhood parks are further divided into public and private parks. The allocation of land and improvements is apportioned at 2 acres to community parks and 3 acres to public and/or private neighborhood parks. The following guidelines are used when planning parks:

1. To serve the community as a whole, a 20-acre improved community park for every 10,000 population is the Community Services Commission's goal when developing residential villages. Development agreements are considered when needed to vary the allocation of park credits to allow for development of community parks.
2. Public neighborhood parks are incorporated within residential developments to serve the immediate neighborhood, supplemented by private parks. Private parks and/or improvements to private parks shall be provided when they have a clear benefit to the community.
3. The Community Services Commission, working with the development community, endeavor to address the development of parks at the earliest stages of development, to communicate the City's park interests.

d. University of California, Irvine, Long Range Development Plan

The 2007 University of California, Irvine (UCI), Long Range Development Plan (LDRP) identifies general types of campus development and land uses to support projected expansion of existing academic programs and to enable new academic program initiatives at UCI through the plan horizon year of 2025-26. In addition, it provides a foundation for post-2025 development at UCI. The 2007 LDRP is accompanied by an EIR that identifies potential environmental effects of the plan and prescribes mitigation measures for reducing significant environmental impacts from campus physical development.

e. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the project and will help to reduce and avoid potential impacts related to land use and planning:

- PPP LU-1: Compliance with the Airport Environs Land Use Plan for John Wayne Airport
- PPP LU-2: Compliance with the Orange County Central and Coastal Natural Community Conservation Plan (NCCP)
- PPP LU-3: Compliance with the City Local Coastal Program and Zoning Ordinance Chapter 2-7 Coastal Zone Regulations for Developments Located in Coastal Zone
- PPP LU-4: Compliance with Zoning Ordinance
- PPP LU-5: Compliance with the City Parks Master Plan
- PPP LU-6: Compliance with the UCI LDRP

Proposed General Plan Strategies and Policies

The following proposed goals, objectives, policies, and implementation actions are applicable to the analysis of land use and planning and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Land Use Element

Goal 4: Manage Growth to Ensure Balanced Residential and Nonresidential Development Throughout the City.

Objective LU-4. To achieve a balanced and sustainable distribution of land uses throughout the City by implementing equitable and inclusive land use policies that optimize the efficient use of land, promote environmental stewardship, and enhance quality of life for all residents.

Goal 6: Achieve Harmonious Land Use Patterns Throughout the City.

Objective LU-6. To establish cohesive and harmonious land use patterns throughout the City by implementing integrated planning strategies that promote connectivity, sustainability, and community well-being while respecting the unique character and identity of different neighborhoods.

Goal 7: Develop Mixed Use Areas.

Objective LU-7. To cultivate vibrant mixed-use areas throughout the City by implementing land use policies and strategies that promote the integration of residential, commercial, recreational, and cultural uses within cohesive and walkable neighborhoods, enhancing livability, economic vitality, and community well-being.

Goal 12: Promote the Implementation of Proximity Villages.

Objective LU-12: Implement the use of proximity villages through a range of policies that promote sustainable and community-oriented development.

4.9.3 Significance Determination Thresholds

The City has adopted Appendix G of the State CEQA Guidelines as the significance thresholds for land use and planning impacts. A project would normally have a significant effect on the environment if the project would:

1) Physically divide an established community.
2) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

4.9.4 Methodology

Preparation of this section was based on review of existing land use conditions in the City including aerial images and geographical information systems land use data. This was followed by an evaluation of how the proposed General Plan Update land use, goals, and policies would affect existing land uses within the City.

4.9.5 Topic 1: Physically Divide an Established Community

Would the project physically divide an established community?

4.9.5.1 Impact Analysis

Implementation of the project would not include new major infrastructure, such as a freeway, that could physically divide an established community. The project applies to city-wide development, but focuses residential and residential mixed-use development in existing urbanized areas throughout the City using proposed overlay zones. The project would focus increased density in Focus Areas 1, 2 and 3, which are located near existing or planned travel corridors. Future development and redevelopment would utilize existing transportation facilities and would provide opportunities for new employment, housing, and recreational uses within existing planning areas.

Focus Area 1 is located in the IBC, which is one of the two employment centers located within the City. It connects to the Tustin Transportation Center and has direct access to the Tustin Transportation Center (Metrolink and Orange County Transportation Authority [OCTA] transit service) through the iShuttle and has direct access to Interstate 405, State Route 73, and State Route 55, which provide access to various city and countywide destinations. The project would allow for up to 15,000 new residential units within the subject focus area through the proposed overlay.

Focus Area 2 is located in the Greater Spectrum Area, which is an emerging employment center located near the Irvine Transportation Center (ITC– Metrolink, Amtrak, and OCTA transit service). The project would allow for up to 26,607 new residential units within Focus Area 2 through the proposed overlay.

Focus Area 3 is in the Great Park, which is an existing mixed-use planning area that features a mix of residential uses at varying densities surrounding the Irvine Great Park. The project would increase the number of residential units permitted in the Great Park with a focus on higher density near or adjacent to the ITC. Specifically, the project would allow for up to 13,989 new residential units within Focus Area 3 through the proposed overlay.

Outside of the three focus areas, the project would allow for the development of up to 8,536 units throughout the City. These units are expected to be developed as redevelopment/infill projects, on sites that are currently developed with low-intensity residential uses.

By strategically directing future development to the three focus areas, the project aims to retain the existing character of more established residential communities in the central area of the City and concentrate higher-density development in more urban areas. The project also encourages the preservation of existing residential communities through infill development facilitated by the Residential and Residential Mixed-Use Overlay, which would reduce potential conflicts between contrasting land uses and would enhance existing neighborhoods by responsibly integrating new development into existing communities. Furthermore, the Land Use Element Update includes applicable goals and objectives aimed at managing growth to ensure a balanced residential and nonresidential development pattern throughout the City and achieving harmonious land use to further the City's goal of minimizing potential land use conflicts. Supporting objectives would develop land use policies that promote the efficient use of land in the City, adopting planning strategies to promote the community well-being while respecting the unique character of existing neighborhoods, adopting strategies that promote the integration of all land use types in walkable and cohesive neighborhoods, and the use of proximity villages to promote community-oriented development that is also compatible with surrounding uses and neighborhoods. Therefore, implementation of the project would ensure the development of cohesive neighborhoods without physically dividing existing communities and while also maintaining the features that make each village in the City unique.

Additionally, the project includes nonresidential improvements to the Great Park area and an extension to Ada, a local roadway. All Great Park improvements are intended to serve visitors of the park and would occur within an area slated for buildout of a regionally serving park. Furthermore, the Ada extension is intended to increase connectivity in the area near the ITC. Both the improvements planned within the Great Park and improvements to Ada would occur within nonresidential areas (on nonresidential properties), and as such would not result in the physical division of established community.

4.9.5.2 Significance of Impacts

The project would introduce new residential land uses throughout the City in a manner that would be compatible with existing established communities and would not introduce any large-scale infrastructure or other improvements that would result in the physical division of the community. As such, impacts would be less than significant impacts.

4.9.5.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.9.6 Topic 2: Conflicts with Applicable Plans and Policies

Would the project cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

4.9.6.1 Impact Analysis

The project is a comprehensive update to the City's existing General Plan in support of the City's RHNA goals. In total, the project would facilitate the future development of up to 57,656 new residential units, with most of these units concentrated in the three focus areas. Additional project-activities include nonresidential improvements to the Great Park area, the extension of Ada (a street in the area near the Irvine Transit Center), and the continuation of nonresidential uses permitted at the same intensities as allowed under the existing General Plan.

Typical plans and policies to be consulted for this analysis include the City's General Plan, City's Municipal Code, City's Zoning Ordinance, Local Coastal Plan, John Wayne AELUP, City's Parks Master Plan, and UCI's LRDP. Refer to Section 4.13, Transportation, for a discussion of land use compatibility impacts with respect to SCAG's RTP/SCS.

a. General Plan, Municipal Code, Zoning Ordinance

The project would encourage the future development of residential and residential mixed-use development in existing nonresidential areas throughout the City through implementation of residential overlay zones. Most increased housing is proposed near existing or planned travel corridors within the three focus areas. As such, future development and redevelopment would utilize existing transportation facilities and would provide opportunities for new employment, housing, and recreational uses within existing planning areas.

Adoption of the General Plan update would also ensure consistency with state law in regards to necessary updates to the City's General Plan required to address multiple state laws that have occurred since the City's last General Plan adoption (2020) and land use changes (i.e., the proposed overlay) required to accommodate the City's RHNA allocation. Once adopted, goals, objectives, policies, and implementation measures outlined in the proposed General Plan update would become the applicable regulations guiding development and other activities in the City.

Furthermore, future development would be reviewed to consider consistency with all applicable plans, including the City's General Plan, Municipal Code, and Zoning Ordinance. Additionally, development within the City's focus areas would be required to adhere to the land use plans that provide supplemental development regulations for those areas, as well as applicable regulations in the Municipal Code that serve to reduce or avoid environmental impacts. Therefore, land use

consistency impacts associated with adoption of the General Plan Update would be less than significant.

b. Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy: Connect SoCal

The project would serve as an important action towards implementing the City's 6th Cycle 2021-2029 Housing Element and the associated RHNA allocation of 23,610 units. Because the housing assessment in the RHNA is determined by SCAG, any future development of vacant and/or developed sites would accommodate planned increases in population based on SCAG's demographic projections. As described in Section 4.11.1.1 above, SCAG anticipates that the City's population will increase from 261,600 in 2016 to 327,700 in 2045, which would constitute an 11 percent increase in population during this 29-year time frame. Growth forecast data for the City of Irvine is provided to SCAG through Orange County Projections (OCP), Orange County's official growth forecast. OCP is prepared by the Center for Demographic Research with direct input from local jurisdictions, including the City of Irvine. According to OCP-2018, the growth forecast provided to SCAG for the development of 2020-2045 Connect SoCal, the City's housing is projected to increase from 93,300 in 2016 to 121,700 in 2045, which would constitute a 30 percent increase during that 29-year time frame. It is also important to note that in 2022, OCP was updated to reflect 2020 Census data. According to OCP-2022, the total number of housing units in the City is projected to increase from 117,544 in 2020 to 142,979 in 2050. This updated forecast reflects the more aggressive production of housing units that occurred between 2016 and 2020. Therefore, future housing developed under the project would provide housing necessary to meet the City's RHNA allocation of 23,610 units, as well as accommodate future population growth and housing needs accounted for in SCAG's growth projections. Therefore, land use consistency impacts related to conflicts with SCAG would be less than significant.

c. John Wayne AELUP

Airport operations and associated noise and safety hazards require careful land use planning on adjacent lands to ensure the safety of residents and visitors within the area. As previously noted, John Wayne Airport is directly adjacent to the IBC in Irvine (Focus Area 1), which was approved for the development of 15,000 residential units under the City's existing General Plan.

As previously noted, any land use within the boundaries of the AELUP may be found to be inconsistent with the AELUP which:

1) Places people so that they are affected adversely by aircraft noise,
2) Concentrates people in areas susceptible to aircraft accidents,
3) Permits structures of excessive height in areas which would affect adversely the continued operation of the airport, or
4) Permits activities or facilities that would affect adversely aeronautical operations.

As shown in Figure 4.7-3, a portion of Focus Area 1 is located within the John Wayne Airport Safety Zones 2, 3, 4 and 6. Zone 2 (Inner Approach/Departure Zone) prohibits residential uses except on large agricultural parcels and limits nonresidential uses to activities which attract few people. Zone 3

(Inner Turning Zone) limits residential uses to low densities when deemed to be acceptable due to noise and limits nonresidential uses having moderate to higher usage intensities. Zone 4 (Outer Approach/Departure Zone) limits residential uses to very low densities (if deemed to be acceptable when considering noise) and allows for higher densities as infill urban areas when alternate uses are impractical. Zone 4 includes similar limitations on nonresidential uses. Zone 6 (Traffic Pattern Zone) aims to avoid residential uses unless they are airport related and includes similar limitations on nonresidential uses to Zone 3.

In addition, it is expected that over the years, noise impacts to the City from aircraft operations at John Wayne Airport will not increase due to agreements in place restricting the number of flights, hours of noise, and aggregate noise. The John Wayne Airport noise contours are shown in Figure 4.10-3. Future development under the project would be subject to proposed General Plan Noise Element Goal 1, Objective N-1, Policy (a) which requires all plans submitted for development review to demonstrate whether the plan area is located within an existing or future Noise Element noise contour, including vehicle, rail, and aircraft noise contours. Portions of Focus Area 1 are also located within the FAR Part 77 Notification Area and Obstruction Imaginary Surfaces for John Wayne Airport and would therefore be subject to FAA height limits.

The project would retain all existing land use designations throughout the City, including in Focus Area 1. Future development resulting from implementation of the project would be required to comply with height, use and noise limitations designated in the AELUP. Additionally, future projects would be required to file for a consistency determination with ALUC as specified in Section 4.7 of the AELUP (PPP-LU-1). If ALUC determines that a project is inconsistent with the AELUP, ALUC is required to notify the City. The City may modify the project to be consistent with the AELUP and resubmit to ALUC or the City can overrule ALUC by following the procedures in Public Utilities Code Sections 21676 and 21676.5. This procedure would require the City to hold a public hearing on the matter, make specific findings that the proposed overruling is consistent with Public Utilities Code Section 2160, and overrule ALUC by at least two-thirds vote of the applicable governing body (likely the City's Planning Commission and/or City Council).

As with future projects, the project (the General Plan Update) is required to be reviewed by ALUC for a consistency determination with the AELUP. If ALUC determines that the project is inconsistent with the AELUP, ALUC is required to notify the City. The City may modify the project to be consistent with the AELUP and resubmit to ALUC or the City can overrule ALUC by following the procedures in Public Utilities Code Sections 21676 and 21676.5. In that event, the City would hold a public hearing on the matter, make specific findings that the proposed overruling is consistent with Public Utilities Code Section 2160, and overrule ALUC by at least two-thirds vote of the City Council.

For the reasons outlined above, land use compatibility impacts related to conflicts with the AELUP would be less than significant.

d. Orange County NCCP

In May of 1996, the City, the County of Orange, various other cities, and landowners entered into an agreement to place certain lands within the NCCP/Habitat Conservation Plan (HCP) Reserve and commit to certain responsibilities under this plan. Most of the northeastern part of the City is part of

the NCCP/HCP. Additional NCCP/HCP reserve lands also exist in other parts of the City. Development is limited within the NCCP/HCP areas to "Covered Activities" and compatible uses. All proposals for development that are within the NCCP/HCP are required to meet these requirements and would be reviewed by the City prior to approval (PPP LU-2).

Future development resulting from implementation of the project would be required to comply with the NCCP/HCP. As part of the project approval process, each future project with the potential to impact biological resources would be required to conduct an initial site assessment to determine if sensitive biological resources could be present within and/or adjacent to the proposed development project (refer to mitigation measure BIO-1). Individual projects would also be assessed for compliance with the NCCP/HCP depending on whether the project site lies inside the NCCP/HCP Reserve System (including the Irvine Open Space Preserve of the Irvine Open Space Initiative) or Special Linkage Areas. If no sensitive biological resources have a potential to occur within and/or adjacent to the project, the City may approve the project to proceed without further biological resource analyses. If sensitive biological resources have potential to occur, future development may have the potential to conflict with the NCCP/HCP.

e. City of Irvine Local Coastal Program

As illustrated by Figure 4.9-3, a small portion of the City within Focus Area 1 is located within the coastal zone of the City of Irvine Local Coastal Plan. Allowable uses within this area include commercial, industrial, light research, and development uses.

The project would require an amendment to the City's Local Coastal Program to ensure consistency between the land use updates included as part of the project and the Local Coastal Program. The Local Coastal Program amendment is required to be reviewed and processed by the California Coastal Commission, a process that would start immediately following project approval. Once approved, any future development under the project that would be located within the coastal zone would be required to comply with development standards and applicable policies in the City's Local Coastal Program (PPP LU-3). Therefore, land use compatibility impacts related to conflicts with the City's Local Coastal Program would be less than significant.

f. Zoning Ordinance

Future development under the project would be required to comply with land use regulations and development standards set forth in the City's Zoning Ordinance (PPP LU-4). Therefore, land use compatibility impacts related to conflicts with the City's Zoning Ordinance would be less than significant.

g. City Parks Master Plan

The City relies on the Quimby Act (Section 5-5-1004 of the Irvine Municipal Code) to acquire and pay for new parks related to new development. Future development would be subject to in lieu fees or would be required to provide both new recreational facilities and funds for the maintenance and enhancement of existing recreational resources as part of the implementation of the City Parks Master Plan (PPP LU-5). Impact fees would be triggered during the building permit process and

would be guided by the Parks and Park Facilities Standards to provide guidance in acceptance of park land, collection of park fees or provision of in lieu improvements, and criteria for design of public and private parks.

Pursuant to the Quimby Act, the Irvine's Parks and Recreation Element of the General Plan and the Subdivision Ordinance (Section 5-5-1004 of the Irvine Municipal Code) require developers to dedicate park land and/or improvements/amenities and/or pay fees in lieu of dedication, at a rate of five acres per 1,000 persons. New development under the project would be consistent with this plan as it would implement or fund the implementation of the City Parks Master Plan. Therefore, land use compatibility impacts related to conflicts with the City's Parks Master Plan would be less than significant.

h. UCI LDRP

If sensitive biological resources have potential to occur, future development may have the potential to conflict with the NCCP/HCP, which would be considered significant. Conflicts with all other plans would be less than significant.

4.9.6.2 Significance of Impacts

Implementation of mitigation measures BIO-1 through BIO-10 would reduce conflicts with the NCCP/HCP to a level less than significant. Conflicts with all other plans would be less than significant and would not require mitigation.

4.9.6.3 Mitigation

Refer to mitigation measures BIO-1 through BIO-10 in Section 4.3, Biological Resources regarding consistency with the NCCP/HCP. All other impacts would be less than significant and would not require mitigation.

4.9.6.4 Significance of Impacts after Mitigation

Implementation of mitigation measures BIO-1 through BIO-10 would reduce conflicts with the NCCP/HCP to a level less than significant. All other impacts would be less than significant and would not require mitigation.

4.9.7 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for land use. The study area for the assessment of cumulative impacts related to land use and planning is defined as the City. Given that the project involves a comprehensive update to the City's existing General Plan, the project itself is cumulative in nature, as it would shape growth in the City though 2045. As such, future development under the project would be required to comply with all applicable land use plans and regulations. All future development resulting from implementation of the project would also be required to

comply with all existing land use plans and policies. Additionally, future projects with the potential to impact biological resources would be required to comply with mitigation measures BIO-1 through BIO-10 to reduce potential conflicts with the NCCP/HCP. Compliance with these requirements and mitigation measures would ensure that individual site-specific projects would avoid cumulative impacts related to land use consistency.

The City is almost entirely developed with a wide variety of established land uses. Existing land use patterns within the three focus areas where future development is likely to be concentrated largely consist of mixed-use, residential, office, and retail development. As such, it is anticipated that future growth facilitated by the project would largely occur as infill development and redevelopment. Changes to the existing focus areas would likely occur through the conversion of underutilized land, and in limited cases, vacant land. Furthermore, changes proposed to the Great Park as part of the project are limited to visitor-serving recreational uses that would be compatible with the surrounding area and would be located within the existing park boundaries. Similarly, the extension of Ada roadway would be limited to an area that is developed and consists of roadway and associated right-of-way. The project has also incorporated policies to guide development consistent with existing regional and local land use plans and policies, ensuring land use compatibility and avoiding physical division of community.

Implementation of the project would not conflict with applicable land uses. Additionally, the project would address inconsistencies with the City's adopted Housing and General Plan, Zoning Ordinance, Zoning Map, and Local Coastal Program. Therefore, the project would not contribute to a cumulative impact related to land use.

4.10 Noise

This section analyzes the noise impacts that could result from implementation of the project. This analysis relies on the Irvine General Plan Update Traffic Noise Assessment prepared by Urban Crossroads, Inc. (Appendix G).

4.10.1 Existing Conditions

4.10.1.1 Fundamentals of Noise and Vibration

a. Fundamentals of Noise

Sound levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease.

Additionally, in technical terms, sound levels are described as either a "sound power level" or a "sound pressure level," which while often confused, are two distinct characteristics of sound. Both share the same unit of measure, the dB. However, sound power, expressed as L_{pw}, is the energy converted into sound by the source. The L_{pw} is used to estimate how far a noise will travel and to predict the sound levels at various distances from the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers such as an ear drum or microphone and is the sound pressure level. Noise measurement instruments only measure sound pressure, and noise level limits used in standards are generally sound pressure levels.

The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale, which approximates the frequency response of the average young ear when listening to most ordinary everyday sounds, was devised. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Therefore, the "A-weighted" noise scale is used for measurements and standards involving the human perception of noise. Noise levels using A-weighted measurements are designated with the notation dB(A).

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important. Additionally, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used for this study are the one-hour equivalent noise level (L_{eq}) and the community noise equivalent level (CNEL). The CNEL is a 24-hour equivalent sound level. The CNEL calculation applies a 5 dB(A) penalty to noise occurring during evening hours, between 7:00 p.m. and 10:00 p.m., and a 10 dB(A) penalty is added to noise occurring during the night, between 10:00 p.m. and 7:00 a.m. These increases for certain times are intended to account for the added sensitivity of humans to noise during the evening and night.

Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dB(A) for each doubling of the distance.

Traffic noise is not a single, stationary point source of sound. The movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The drop-off rate for a line source is 3 dB(A) for each doubling of distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the source. A soft site (such as soft dirt, grass, or scattered bushes and trees) receives an additional ground attenuation value of 1.5 dB(A) per doubling of distance. Thus, a point source over a soft site would attenuate at 7.5 dB(A) per doubling of distance.

Human perception of noise has no simple correlation with acoustical energy. A change in noise levels is generally perceived as follows: 3 dB(A) barely perceptible, 5 dB(A) readily perceptible, and 10 dB(A) perceived as a doubling or halving of noise (California Department of Transportation [Caltrans] 2013, 2020).

b. Fundamentals of Vibration

Vibration consists of energy waves transmitted through solid material (Federal Transit Administration [FTA] 2018). Groundborne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be composed of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in hertz (Hz). The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz (FTA 2018).

Groundborne vibration is measured by its peak particle velocity (PPV), which is normally described in inches per second (in/sec). PPV is appropriate for determining potential structure damage but does not evaluate human response to vibration. The ground motion caused by vibration may also be described in decibel notation (vibration decibels), referenced as VdB, which serves to compress the range of numbers required to describe vibration relative to human response. The general human response to different levels of groundborne vibration velocity levels is described in Table 4.10-1.

Table 4.10-1
Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

SOURCE: FTA 2018.
VdB = vibration decibel

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. The way in which vibration is transmitted through the earth is called propagation. As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

Groundborne vibration can be a concern for nearby residents along a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. Groundborne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains; buses on rough roads; and construction activities such as blasting, pile-driving, and operating heavy earth-moving equipment.

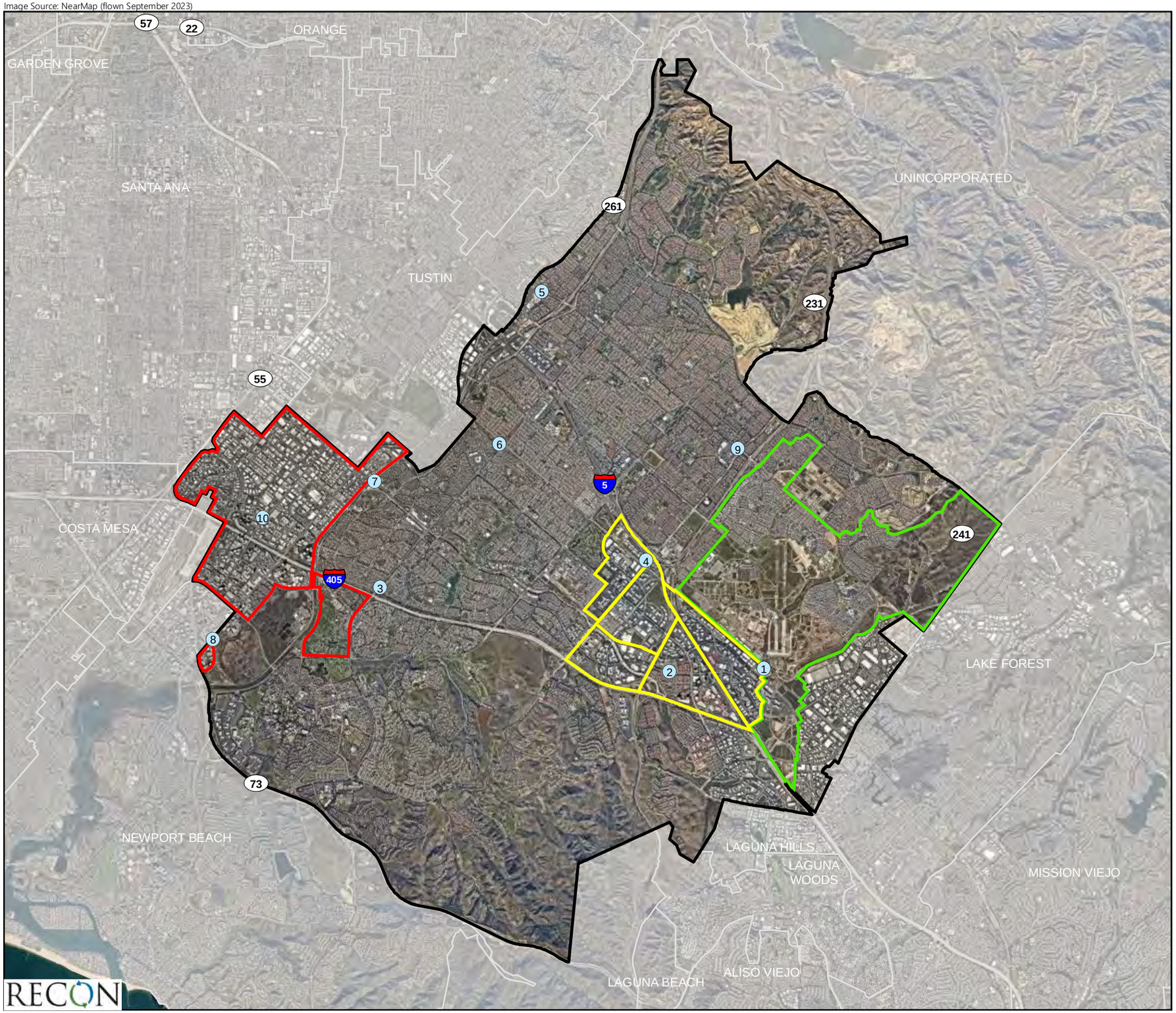
4.10.1.2 Ambient Noise Measurements

As part of this assessment, ambient noise levels were measured in the City to provide a characterization of the variability of noise and to assist in determining constraints and opportunities for future development. Eight 15-minute, one 1-hour, and one 19-minute daytime noise level measurements were conducted throughout the City. Noise measurements were taken with one Larson-Davis LxT Type 1 Integrating Sound Level Meters, serial number 3897. The following parameters were used:

Filter:	A-weighted
Response:	Slow
Time History Period:	5 seconds
Height of Instrument:	5 feet above ground level

Measurement locations are shown in Figure 4.10-1. A summary of the measurements is provided in Table 4.10-2, and traffic counts taken during measurements are summarized in Table 4.10-3. Based on the measurement data, daytime noise levels in the City are typical of an urban environment. Each measurement location and noise source observed during the measurements is discussed below.

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3
Noise Measurement Location

0 Miles 1.5

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FIGURE 4.10-1
Noise Measurement Locations

Table 4.10-2 Noise Measurements				
Measurement	Location	Date	Time	L_{eq}
1	Irvine Transit Center	2:29 p.m. - 3:29 p.m.	1 hour	57.4
2	Alton Parkway, 30 feet from edge of nearest travel lane	2:02 p.m. - 2:17 p.m.	15 minutes	60.2
3	Culver Drive, 30 feet from edge of nearest travel lane	9:51 a.m. - 10:06 a.m.	15 minutes	62.8
4	Sand Canyon Avenue, western corner of intersection with Burt Road	1:22 p.m. - 1:41 p.m.	19 minutes	72.3
5	Irvine Boulevard, 50 feet from nearest travel lane	12:30 p.m. - 12:45 p.m.	15 minutes	60.2
6	Culver Drive, 100 feet from edge of nearest travel lane	11:54 a.m. - 12:09 p.m.	15 minutes	55.6
7	Barranca Parkway, 50 feet from edge of nearest travel lane	10:45 a.m. - 11:00 a.m.	15 minutes	58.2
8	Jamboree Road, 50 feet from edge of nearest travel lane	8:28 a.m. - 8:43 a.m.	15 minutes	65.3
9	Irvine Boulevard and Sand Canyon Avenue, 25 feet from edge of nearest Irvine Boulevard travel lane	3:47 p.m. - 4:02 p.m.	15 minutes	62.7
10	Main Street, western corner of intersection with Von Karman Avenue	9:05 a.m. - 9:20 a.m.	15 minutes	71.0
L_{eq} = one-hour equivalent noise level.				

Table 4.10-3 Traffic Counts						
Measurement	Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
2	Alton Parkway	141	4	0	3	0
3	Culver Drive	535	15	2	2	0
4	Sand Canyon Avenue	325	8	3	1	0
5	Irvine Boulevard	340	0	0	0	0
6	Culver Drive	350	6	0	1	0
7	Barranca Parkway	122	5	0	1	0
8	Jamboree Road	300	12	1	0	0
9	Irvine Boulevard	803	7	0	3	1
10	Main Street	263	3	1	2	2

Measurement 1 was taken at the Irvine Transit Center (Metrolink Station) located at 15215 Barranca Parkway #1. The measurement was located at the fence adjacent to the Metrolink tracks, approximately 46 feet from the tracks. The main source of noise at this measurement location was two northbound trains and announcements over the speaker system. Other sources of noise included aircraft flyovers, buses and a garbage truck. The average measured noise level was 57.4 dB(A) L_{eq}.

Measurement 2 was located 30 feet from the nearest travel lane on Alton Parkway, and on the southern edge of 15615 Alton Parkway. The main source of noise at this location was vehicle traffic

on Alton Parkway. Traffic volumes on Alton Parkway were counted during the 15-minute measurement period. The average measured noise level was 60.2 dB(A) L_{eq}.

Measurement 3 was located 30 feet from the nearest travel lane on Culver drive, north of Interstate 405 (I-405), and along the edge of the Freeway trail. The main source of noise at this location was vehicle traffic on Culver Drive. Traffic volumes on Culver Drive were counted during the 15-minute measurement period. The average measured noise level was 62.8 dB(A) L_{eq}.

Measurement 4 was taken on the western corner of the Sand Canyon Avenue and Burt Road intersection. The main source of noise at this location was vehicle traffic on Sand Canyon Avenue. Other sources of noise included the cross walk signal. Traffic volumes on Sand Canyon Avenue were counted during the 19-minute measurement period. The average measured noise level was 72.3 dB(A) L_{eq}.

Measurement 5 was taken 50 feet from the nearest travel lane on Irvine Boulevard, approximately 368 feet northwest of the Irvine Boulevard and Marketplace intersection. The main source of noise at this location was vehicle traffic on Irvine Boulevard. Traffic volumes on Irvine Boulevard were counted during the 15-minute measurement period. The average measured noise level was 60.2 dB(A) L_{eq}.

Measurement 6 was taken 100 feet from the nearest travel land on Culver Drive, on the Walnut Trail, approximately 178 feet southwest of the Metrolink tracks. The main source of noise at this location was vehicle traffic on Culver Drive. Other sources included bird vocalizations. No train pass-bys were observed during the measurement period. Traffic volumes on Culver Drive were counted during the 15-minute measurement period. The average measured noise level was 55.6 dB(A) L_{eq}.

Measurement 7 was taken 50 feet from the nearest travel lane on Barranca Parkway, and south of Peters Canyon Trail. The main source of noise at this location was vehicle traffic on Barranca Parkways. Traffic volumes on Barranca Parkway were counted during the 15-minute measurement period. The average measured noise level was 58.2 dB(A) L_{eq}.

Measurement 8 was taken 50 feet from the edge of the nearest travel lane on the eastern corner of the Jamboree Road and Fairchild Road intersection. The main source of noise was vehicle traffic on Jamboree Road. Traffic volumes on Jamboree Road were counted during the 15-minute measurement period. The average measured noise level was 65.3 dB(A) L_{eq}.

Measurement 9 was taken 25 feet from the edge of the nearest Irvine Boulevard travel lane, approximately 140 feet northwest of the Irvine Boulevard and Sand Canyon Avenue intersection. The main source of noise was vehicle traffic on Irvine Boulevard and San Canyon Avenue. Other sources of noise included skateboards, bicycles, and a motorcycle. Traffic volumes on Irvine Boulevard were counted during the 15-minute measurement period. The average measured noise level was 62.7 dB(A) L_{eq}.

Measurement 10 was taken on the western corner of the Main Street and Von Karmen Avenue intersection. The main source of noise at this location was vehicle traffic on Main Street and Von Karmen Avenue. Other sources of noise included music from vehicles. Traffic volumes on Main Street were counted during the 15-minute measurement period. The average measured noise level was 71 dB(A) L_{eq}.

4.10.1.3 Existing Traffic Noise

The most pervasive noise in Irvine currently comes from mobile noise sources such as motor vehicles, railroads, and aircraft. The City is also exposed to noise emanating from sources such as industrial, commercial, and construction activities. Major roads/freeways generating the greatest noise level in the City are Interstate 5 (I-5) and I-405. Numerous other roads within the City are also major sources of noise. The noise contour distances represent the predicted noise level for each roadway without the attenuating effects of noise barriers, structures, topography, or dense vegetation. As intervening structures, topography, and dense vegetation would affect noise exposure at a particular location, the noise contours should not be considered site-specific but are rather guides to determine when detailed acoustic analysis should be undertaken.

Figure 4.10-2 shows the existing vehicle traffic noise contours for the City. As shown, existing noise levels at areas located closest to the roadways exceed 60 CNEL. The local freeways are the dominant noise sources in the City. Noise contours from the freeways in many cases overlap with and encompass the noise contours from local roadways.

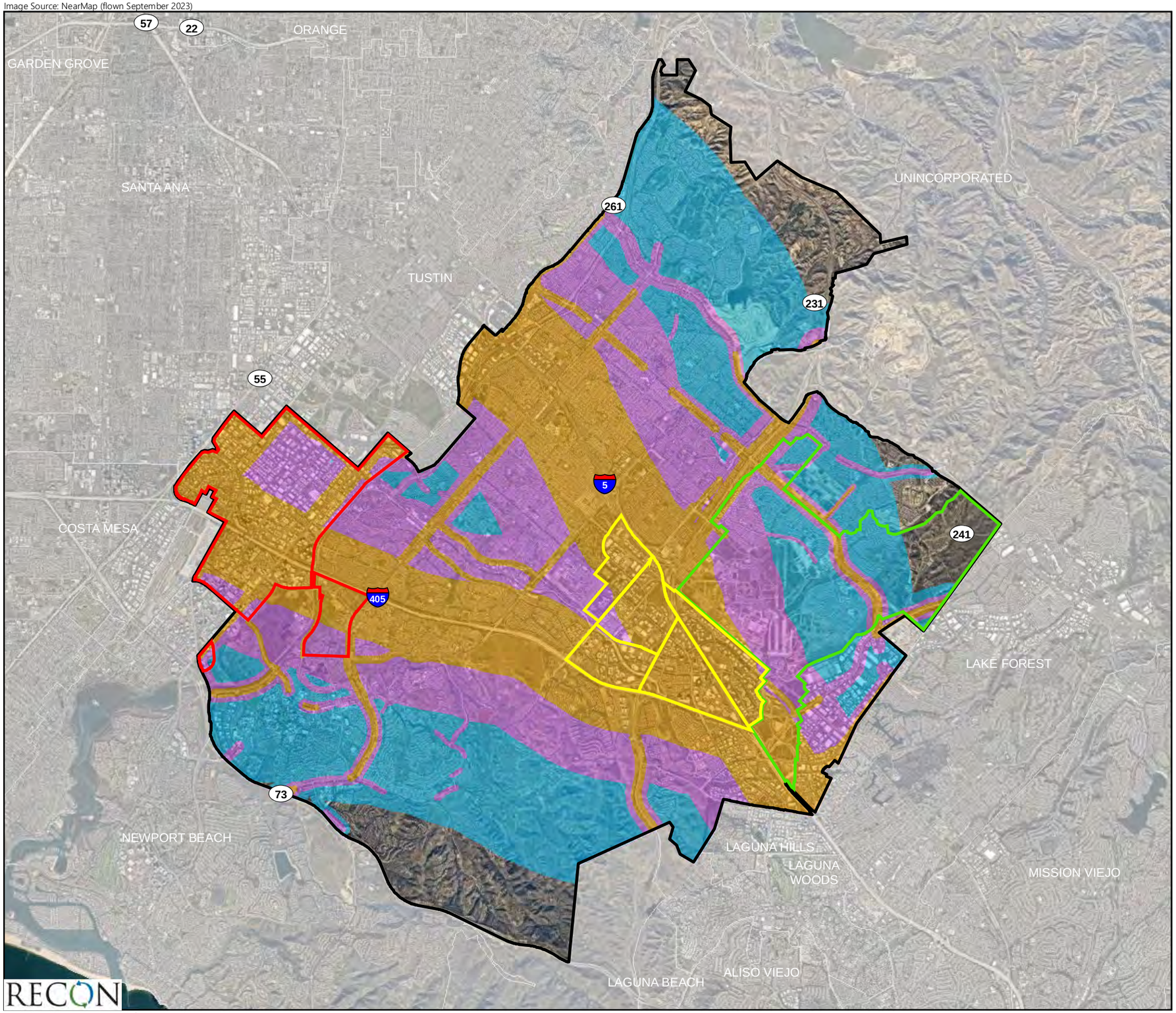
4.10.1.4 John Wayne Airport Noise Contours

Aircraft noise generally affects areas within the airport vicinity during takeoffs and landings, and areas located around the flight tracks. Current airborne noise sources in the City result from civil air operations at John Wayne Airport, located immediately adjacent to the western boundary of the City. It is expected that over the years, noise impacts to the City from aircraft operations at John Wayne Airport will not increase due to agreements in place restricting the number of flights, hours of noise, and aggregate noise. As a civil airport, John Wayne Airport is subject to State Airport Noise Regulation (Title 21), requiring efforts to reduce airport noise impact on existing communities. The John Wayne Airport noise contours are shown in Figure 4.10-3 (Orange County Airport Land Use Commission [ALUC] 2008).

4.10.1.5 Railroad Noise

Railroad noise is the result of the mechanical processes of the engine, the interaction of the wheels with the track, and use of the whistle. The amount of noise generated is dependent upon the speed of the train and the number of cars. In the City, there are regular passenger rail services provided by Amtrak and Metrolink. The Irvine Station is located near the Spectrum Center in the southeastern part of the City. The railroad tracks are utilized by Metrolink's Orange County Line and Inland Empire–Orange County Line and Amtrak's Surfliner as well as Burlington Northern Santa Fe (BNSF) freight trains. The route alignment generally follows the I-5 corridor. Railroad noise contours are shown in Figure 4.10-4.

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3

Existing Traffic Noise

60 CNEL
65 CNEL
70 CNEL

0 Miles 1.5

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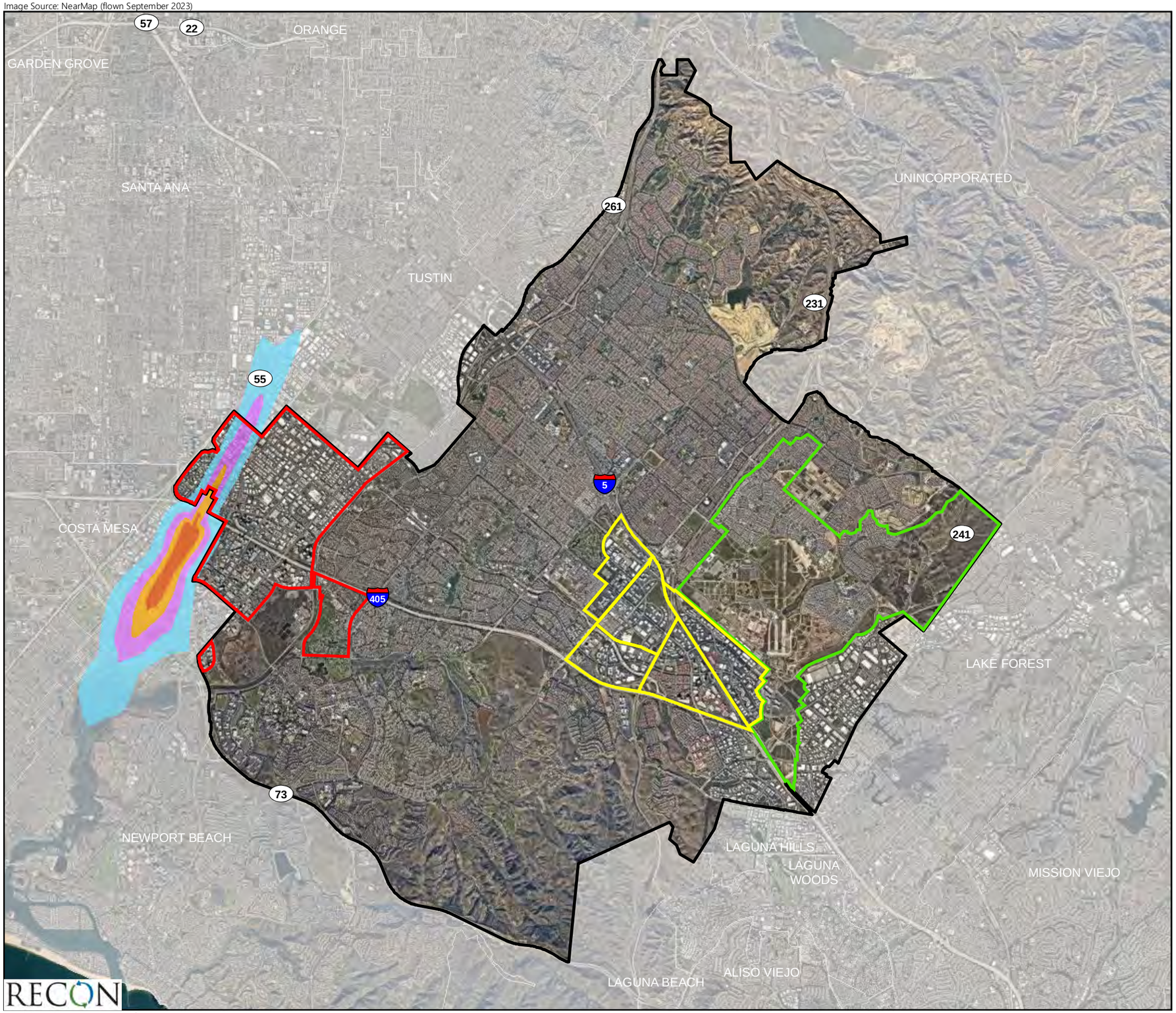
FIGURE 4.10-2
Existing Traffic Noise Contours

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3

Airport Noise

60 CNEL
65 CNEL
70 CNEL
75 CNEL

0 Miles 1.5

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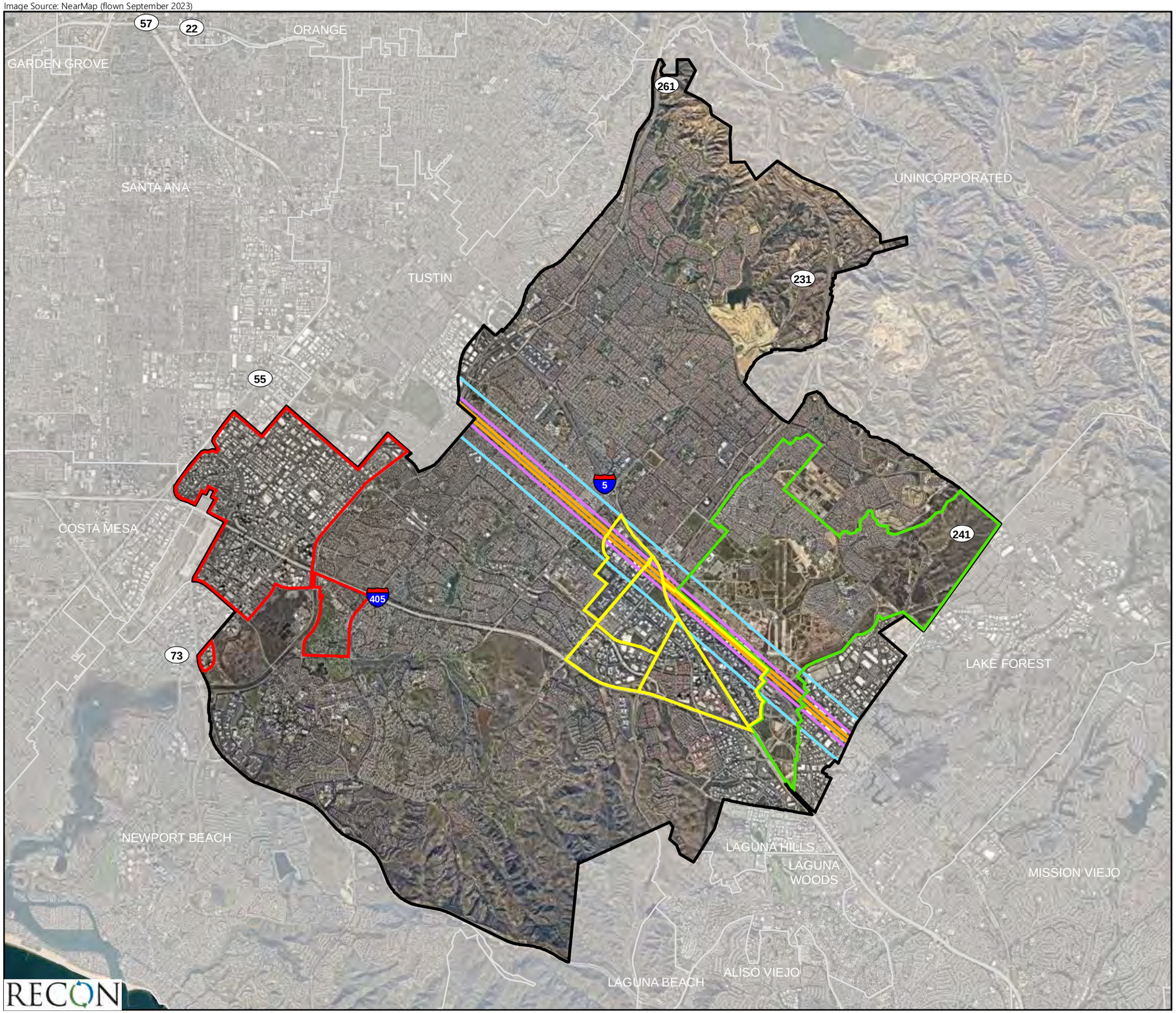
FIGURE 4.10-3
John Wayne Airport Noise Contours

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3

Railroad Noise

60 CNEL
65 CNEL
70 CNEL

0 Miles 1.5

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FIGURE 4.10-4
Railroad Noise Contours

4.10.1.6 Stationary Noise

Stationary noise sources are the noise sources in the community such as industrial and mechanical equipment, which are often referred to as "fixed sources." Industrial noise generated by processing and operation is usually of long duration at relatively low frequencies. Industrial uses, including manufacturing, warehousing, and distribution-related uses, are another source of noise that can have a varying degree of impact on adjacent uses. Mechanical equipment, generators, and vehicles associated with these uses all contribute to noise levels at industrial sites. Construction sources generate high noise levels for temporary, but sometimes extended periods of time from operation of heavy equipment. Other land uses such as commercial development may result in generally nuisance noise exposure from high amounts of activity, maintenance activities, and mechanical noise. Examples of stationary sources within the City include:

- University of California, Irvine (special events)
- Frank R. Bowerman Landfill (hauling and operational activities)
- Heating, ventilation and air conditioning (HVAC) units
- Various power tools such as lawnmowers or leaf blowers; mechanical equipment required for operation such as car wash facilities
- Animal noise
- Human-related activities such as loud parties, loud music, radio, T.V., or children playing
- Event spaces and amphitheaters result in periodic noise exposure from amplified noise and crowd activity.

4.10.2 Applicable Regulatory Requirements

4.10.2.1 Federal

a. Construction Noise

The FTA provides financial and technical assistance to local public transit systems, including buses, subways, light rail, commuter rail, trolleys, and ferries. FTA also oversees safety measures. The FTA's Transit Noise and Vibration Impact Assessment manual indicates that 80 dB(A) L_{eq} is reasonable criteria for assessing construction noise levels at residential uses (FTA 2018). In the absence of local construction noise level limits, the FTA recommended 80 dB(A) L_{eq} criteria is often used to assess the significance of construction noise at residential receivers.

b. Vibration

The FTA provides criteria for acceptable levels of groundborne vibration for various types of buildings. Structures amplify groundborne vibration; wood-frame buildings, such as typical residential structures, are more affected by ground vibration than heavier buildings. The level at which groundborne vibration is strong enough to cause architectural damage has not been determined conclusively, but the standards recommended by the FTA are shown in Table 4.10-4.

Table 4.10-4 Construction Vibration Damage Criteria		
Building/Structural Category	PPV (in/sec)	Approximate VdB
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90
SOURCE: FTA 2018. PPV = peak particle velocity in/sec = inch per second VdB = vibration decibel		

The FTA also provides guidance for assessing vibration impacts from railroad operations. The criteria for determining the significance of impacts are presented in Table 4.10-5.

Table 4.10-5 Guidelines for Determining the Significance of Groundborne Vibration and Noise Impacts						
	Groundborne Vibration Impact Levels (VdB re 1 micro-inch per second)			Groundborne Noise Impact Levels (dB re 20 micro Pascals)		
Land Use Category	Frequent Events	Occasional Events	Infrequent Events	Frequent Events	Occasional Events	Infrequent Events
Category 1: Buildings where low ambient vibration is essential for interior operations (research & manufacturing facilities with special vibration constraints)6	65 VdB	65 VdB	65 VdB	N/A	N/A	N/A
Category 2: Residences and buildings where people normally sleep (hotels, hospitals, residences, & other sleeping facilities)6	72 VdB	75 VdB	80 VdB	35 dB(A)	38 dB(A)	43 dB(A)
Category 3: Institutional land uses with primarily daytime use (schools, churches, libraries, other institutions, & quiet offices)6	75 VdB	78 VdB	83 VdB	40 dB(A)	43 dB(A)	48 dB(A)
SOURCE: FTA 2018. VdB = vibration decibel; re = relative; N/A = not applicable "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category. "Occasional Events" is defined as 30 to 70 vibration events per day. Most commuter trunk links fall into this category "Infrequent Events" is defined as fewer than 70 vibration events per day. This category includes most commuter rail systems.						

For Category 1 uses such as vibration sensitive equipment, the screening distance from the right-of-way is 600 feet. For Category 2 land uses such as residences and buildings where people would normally sleep, the screening distance is 200 feet. The screening distance for Category 3 land uses such as institutional land uses with primarily daytime uses, is 120 feet.

4.10.2.2 State

a. General Plan Guidelines

The state of California, through its General Plan Guidelines, discusses how ambient noise should influence land use and development decisions and includes a table of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable uses at different noise levels, expressed in CNEL (Governor's Office of Planning and Research 2017). This table provides a tool to gauge the compatibility of land uses relative to existing and future noise levels. It provides land use compatibility guidelines that local jurisdictions can use as a guide for establishing its own General Plan noise compatibility levels that reflect the noise-control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. The compatibility guidelines identify normally acceptable, conditionally acceptable, and clearly unacceptable noise levels for various land uses. A conditionally acceptable designation implies new construction or development should be undertaken only after detailed analysis of the noise reduction requirements for each land use, and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements.

b. California Code of Regulations

For residential uses, interior noise levels for habitable rooms are regulated also by Title 24 of the California Code of Regulations, California Noise Insulation Standards. Title 24, Chapter 12, Section 1206.4 of the 2022 California Building Code requires that interior noise levels attributable to exterior sources not exceed 45 CNEL in any habitable room within a residential structure. A habitable room is a room used for living, sleeping, eating, or cooking. Bathrooms, closets, hallways, utility spaces, and similar areas are not considered habitable rooms for this regulation.

For nonresidential structures, Title 24, Chapter 12, Section 1207.5 refers to 2022 California Green Building Standards, Chapter 5 – Nonresidential Mandatory Measures, Division 5.5 – Environmental Quality, Section 5.507 – Environmental Comfort, Subsection 5.507.4 – Acoustical Control. Pursuant to these standards, all nonresidential building construction shall employ building assemblies and components that achieve a composite sound transmission class rating of at least 50 or shall otherwise demonstrate that exterior noise shall not result in interior noise environment where noise levels exceed 50 dB(A) L_{eq} in occupied areas during any hour of operation.

4.10.2.3 Orange County Airport Land Use Commission

As discussed in Section 4.10.1.4, John Wayne Airport is located immediately adjacent to the western boundary of the City. The Orange County ALUC prepares airport land use compatibility plans (ALUCP) in order to promote compatibility between airports and the land uses surrounding them. ALUCPs set compatibility criteria applicable to local agencies in their preparation or amendment of land use plans and ordinances. The Airport Environs Land Use Plan (AELUP) for John Wayne Airport provides guidance specific to the airport. The AELUP noise compatibility standards are summarized in Table 4.10-6.

Table 4.10-6
AELUP Limitations on Land Use Due to Noise

Land Use Category	55	60	65	70	75	80
Residential (all types): Single and Multi-Family Residences						
Community Facilities: Churches, Libraries, Schools, Preschools, Day-Care Centers Hospitals, Nursing/Convalescent Homes & Other noise sensitive uses						
Commercial Retail, Office						
Industrial						

	NORMALLY CONSISTENT Conventional construction methods used. No special noise reduction requirements.
	CONDITIONALLY CONSISTENT Must use sound attenuation as required by the California Noise Insulation Standards, Title 25, California Code of Regulations. Residential use sound attenuation required to ensure that the interior CNEL does not exceed 45 dB. Commercial and industrial structures shall be sound attenuated to meet Noise Impact Zone "1" criteria.
	NORMALLY INCONSISTENT All residential units are inconsistent unless are sound attenuated to ensure that the interior CNEL does not exceed 45 dB, and that all units are indoor oriented so as to preclude noise impingement on outdoor living areas.

SOURCE: Orange County ALUC 2008.

4.10.2.4 City of Irvine

a. Current General Plan (2000)

The City's existing General Plan (2000) establishes acceptable interior and exterior noise standards (Table F-1) by land use type and establishes acceptable noise levels by each land use category to ensure land use compatibility (Table F-2). In addition, the existing General Plan includes the following objectives related to noise:

Objective F-1: Mobile Noise. Ensure that City residents are not exposed to mobile noise levels in excess of the CNEL Interior and Exterior Noise Standards (Table F-1), and Single Event Noise Standard.

Objective F-2: Stationary Noise. Ensure that City residents are not exposed to stationary noise levels in excess of the City Noise Ordinance standards.

Objective F-3: Noise Abatement. Achieve maximum efficiency in noise abatement efforts through intergovernmental coordination and public information programs.

b. Municipal Code

Operational Noise

The City regulates noise through the Municipal Code under Title 6 Public Morals, Division 8 Pollution, Chapter 2 Noise (Table 4.10-7). All properties are assigned to the following Noise Zones by the City:

1. Noise *zone 1:* All hospitals, libraries, churches, schools and residential properties.
2. Noise *zone 2:* All professional office and public institutional properties.
3. Noise *zone 3:* All commercial properties excluding professional office properties.
4. Noise *zone 4:* All industrial properties

Table 4.10-7
Municipal Code Noise Standards

Zone	Time of Day	Location	Noise Level dB(A) L_{eq} – Not to be exceed for:				
			30 minutes	15 minutes	5 minutes	1 minute	Anytime
1	7 a.m. to 10 p.m.	Exterior	55	60	65	70	75
		Interior	--	--	55	60	65
	10 p.m. to 7 a.m.	Exterior	50	55	60	65	70
		Interior	--	--	45	50	55
2	7 a.m. to 10 p.m.	Exterior	55	60	65	70	75
		Interior	--	--	55	60	65
3	Anytime	Exterior	60	65	70	75	80
		Interior	--	--	55	60	65
4	Anytime	Exterior	70	75	80	85	90
		Interior	--	--	55	60	65

SOURCE: Irvine Municipal Code Title 6 Public Morals, Division 8 Pollution, Chapter 2 Noise.

Construction Noise

The Municipal Code limits construction activities in Section 66-8-205(A), which states:

> Construction activities and agricultural operations may occur between 7:00 a.m. and 7:00 p.m. Mondays through Fridays, and 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities shall be permitted outside of these hours or on Sundays and federal holidays, except Columbus Day, unless a temporary waiver is granted by the Chief Building Official or his or her authorized representative. Trucks, vehicles, and equipment that are making or are involved with material deliveries, loading, or transfer of materials, equipment service, maintenance of any devices or appurtenances for or within any construction project in the City shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted shall take impact upon the community into consideration. No construction activity and agricultural operations will be permitted outside of these hours except in

> emergencies including maintenance work on the City rights-of-way that might be required.
>
> Deliveries to or pickups from any commercial property sharing a property line with any residential property may occur between 7:00 a.m. and 10:00 p.m. daily. No deliveries to or pickups from any such properties shall occur outside of these hours.

Construction noise is also addressed in Municipal Code Zoning Ordinance Chapter 5 Overlay Districts, Chapter 5-8 Irvine Business Complex Residential Mixed-Use Overlay District, Section 5-8-4 which states:

> Prior to issuance of grading permits, the project applicant shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved.
>
> - Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards.
> - Construction staging areas shall be located away from off-site sensitive uses during the later phases of project development.
> - The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, whenever feasible.
> - For construction of sound walls that have been incorporated into the project design, prior to construction of the building foundation, installation of temporary sound blankets (fences typically composed of poly-vinyl-chloride-coated outer shells with adsorbent inner insulation) shall be placed along the boundary of the project site during construction activities.

Vibration

The Municipal Code Zoning Ordinance Chapter 5 Overlay Districts, Chapter 5-8 Irvine Business Complex Residential Mixed-Use Overlay District, Section 5-8-4 Special development requirements states that projects involving vibration-intensive construction activities occurring near sensitive-receptors must be evaluated for potential vibration impacts. The use of less vibration intensive equipment or methods must be implemented if the construction-related vibration exceeds the Federal Transit Administration vibration-annoyance criteria for 78 VdB during the daytime.

c. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The

following measures are existing plans, programs, or policies (PPP) that apply to the project and will help to reduce and avoid potential impacts related to noise:

- PPP NOS-1: Compliance with the California Code of Regulations interior noise standards.
- PPP NOS-2: Compliance with the City's Municipal Code.
- PPP NOS-3: Compliance with Orange County ALUCP noise compatibility standards for John Wayne Airport.

d. Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed goals, objectives, policies, and implementing actions are applicable to the analysis of noise and would replace existing goals, strategies, and policies outlined in the City's adopted General Plan following project approval.

Table 4.10-8 identifies the maximum interior and exterior noise levels for each land use category. The standards assume the incorporation of California state law requirements into all projects.

Table 4.10-8
Interior and Exterior Noise Standards Energy Average (CNEL)

Land Use Categories		Energy Average (CNEL)	
Categories	Uses	Interior[1]	Exterior[2]
Residential	Single-Family, Multiple Family	45[3] 55[4]	65[7]
	Mobile Home	--	65[5]
Commercial/Industrial	Hotel, Motel, Transient Lodging	45	65[6]
	Commercial, Retail, Bank, Restaurant	55	--
	Office Building, Professional Office, Research & Development	50	--
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	--
	Gymnasiums (Multipurpose)	50	--
	Health Clubs	55	--
	Manufacturing, Warehousing, Wholesale, Utilities	65	--
	Movie Theatre	45	--
Institutional	Hospital, School/Classroom	45	65
	Church, Library	45	--
Open Space	Parks	--	65

[1]Interior environment excludes bathrooms, toilets, closets, and corridors.
[2]Outdoor environment limited to private yard of single-family or multi-family residences private patio which is accessed by a means of exit from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel and motel recreation area.
[3]Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to Appendix Chapter 12, Section 1208 of UBC.
[4]Noise level requirement with open windows if they are used to meet natural ventilation requirement.
[5]Exterior noise level shall be such that interior noise level will not exceed 45 CNEL.
[6]Except for those areas affected by aircraft noise.
[7]Multi-family developments with balconies that do not meet the 65 CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.

Table 4.10-9 identifies the compatibility of proposed projects and future noise levels. The diagram is used in evaluating new development projects, including General Plan amendments, zone changes, tentative maps, conditional use permits and master plans.

Table 4.10-9
Land Use/Noise Compatibility

Land Use Categories		Energy Avenue (CNEL)						
Categories	Use	<	55	60	65	70	75	80>
RESIDENTIAL	Single-Family	A	A	B	B	C	D	D
RESIDENTIAL	Mobile Home	A	A	B	B	C	D	D
COMMERCIAL Regional	Hotel, Motel, Transient Lodging	A	A	B	B	C	C	D
COMMERCIAL Regional Community	Commercial Retail, Bank, Restaurant, Movie Theatre	A	A	A	A	B	B	C
COMMERCIAL Community **INDUSTRIAL & INSTITUTIONAL**	Office Building, Research & Development, Professional Office, City Office Building	A	A	A	B	B	C	D
COMMERCIAL Recreation **INSTITUTIONAL** General	Amphitheatre, Concert Hall, Auditorium, Meeting Hall	B	B	C	C	D	D	D
COMMERCIAL Recreation	Children's Amusement Park, Miniature Golf, Go-Cart Track, Health Club, Equestrian Center	A	A	A	B	B	D	D
COMMERCIAL Community **INDUSTRIAL** General	Automobile service station, Auto Dealer, Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
INSTITUTIONAL General	Hospital, Church, Library, School/Classrooms	A	A	B	C	C	D	D
OPEN SPACE	Parks	A	A	A	B	C	D	D
OPEN SPACE	Golf Courses, Nature Centers, Cemeteries, Wildlife Reserves, Wildlife Habitat	A	A	A	A	B	C	C
AGRICULTURAL	Agriculture	A	A	A	A	A	A	A

Interpretation:
Zone A (Clearly Compatible): Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
Zone B (Normally Compatible): New construction or development should be undertaken only after detailed analysis of the noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Zone C (Normally Incompatible): New construction or development should normally be discouraged. If new construction or development does proceed, a detailed analysis or noise reduction requirements must be made, and needed noise insulation features must be included in the design
Zone D (Clearly Incompatible): New construction or development should generally not be undertaken.

Single Event Noise Standard: The maximum interior noise levels of the loudest 10 percent of single noise events [$L_{max(10)}$] for noise-sensitive land uses within the 60 CNEL of aircraft and railroad noise sources shall not exceed 65 dBA between 7 a.m. and 7 p.m. nor 55 dBA between 7 p.m. and 7 a.m.

for typical occupancy. (Note: The samples for single event noise measurement must include representative aircraft operation.)

Goal 1: Noise Control Through Land Use Planning and Design

Objective N-1. Maintain healthy and safe noise environments consistent with the standards in Table 1 through site design and location.

- Policy (a): Require all plans submitted for development review to demonstrate whether the plan area is located within an existing or future Noise Element noise contour, including vehicle, rail, and aircraft noise contours.
- Policy (b): Avoid new residential development within the 65 CNEL contour for aircraft, roadway, or rail noise unless "normally compatible" exterior noise standards can be maintained in private open spaces, and interior noise standards can be achieved through building design.
- Policy (c): Require noise studies to be prepared in accordance with the City's environmental review procedure for all projects that are not "clearly compatible" with the future noise level at the site. Require proposed development projects located in areas that are not "clearly compatible" to demonstrate the incorporation of adequate noise attenuation techniques to achieve compatible interior noise levels.
- Policy (d): Require noise attenuation for private usable outdoor spaces (back yards and single-family housing developments, and balconies or recreation areas in multifamily housing developments) in all developments where projected exterior noise levels exceed "normally compatible" exterior noise standards.
- Policy (e): Require the following Single Event Noise Standard for noise-sensitive land uses within the 60 CNEL of aircraft and railroad noise sources: The maximum interior noise levels of the loudest 10 percent of single noise events [$L_{max(10)}$] shall not exceed 65 dB(A) between 7 a.m. and 7 p.m. nor 55 dB(A) between 7 p.m. and 7 a.m. for typical occupancy. Noise monitoring conducted to determine maximum single-event noise must include representative aircraft operation.
- Policy (f): Require noise studies conducted per Policy € to identify all the reduction measures necessary to reduce noise levels to meet the interior and exterior noise compatibility standards [Table 4.10-8] and Single Event Noise Standard (Policy (N-1e)), as applicable.
- Policy (g): Continue requiring conditional use permits for noise-sensitive land uses such as hospitals, libraries, churches, and schools located in areas not "clearly compatible" to demonstrate how exterior noise exposure would be minimized, such as building orientation, shielding, or limiting outdoor programs.
- Policy (h): Require that mixed-use and multi-family residential developments demonstrate noise compatibility between uses. Structures will adequately isolate noise between adjacent uses through features such as orientation, window, and building insulation, or separation of common walls. Nuisance noise areas such as loading areas, parking lots, driveways, trash enclosures, mechanical equipment, and other noise sources will be located away from the residential portion of the development when physically feasible.
- Policy (i): Require that new development plans demonstrate that implementation would maintain clearly or normally compatible noise levels at existing receptors. In areas where existing ambient noise levels exceed acceptable noise criteria, require that the project

demonstrates that implementation would not result in a more than 3 CNEL change in ambient conditions, including from project-generated vehicle noise sources.

Goal 2: Stationary Noise Sources

Objective N-2. Reduce noise from non-transportation sources such that City residents are not exposed to stationary noise levels that exceed City Noise Ordinance standards.

- Policy (a): Require any new construction to meet the City Noise Ordinance standards. The project applicant will be required to submit construction-related noise reduction strategies for review and approval prior to the issuance of grading permits.
- Policy (b): Require project applicants to depict, on any appropriate development application review (including, but not limited to, zone change, subdivisions, conditional use permit, site plan, and building plans), any potential noise sources known at the time of submittal and reduction measures that ensure these noise sources meet the City Noise Ordinance standards. Such sources include, but are not limited to, the following:
  - Truck pickup and loading areas.
  - Mechanical and electrical equipment such as air conditioning, swimming pool pumps and filters, and spa pumps.
  - Exterior nuisances such as speaker boxes and outdoor public address systems.
- Policy (c): Limit the hours of operation for portions of parks and active recreation uses adjacent to residential areas to daytime hours to minimize disturbance to residents.
- Policy (d): Require outdoor events with amplified noise to implement best management practices to reduce nuisance noise exposure.

Goal 3: Noise Abatement

Objective N-3. Achieve maximum efficiency in noise abatement efforts through establishing minimum standards, intergovernmental coordination, and public information programs.

- Policy (a): Coordinate efforts to reduce noise impacts with appropriate public and government agencies, such as aircraft and transit regulatory agencies.
- Policy (b): Monitor federal and state legislation and programs that will reduce noise in Irvine.
- Policy (c): Use police power to enforce the appropriate noise standards in the state's motor vehicle code and other state and federal legislation for mobile noise sources, including regulation of illegal or faulty exhaust systems, and excessive speed laws.
- Policy (d): Update highway/railroad noise levels (Table 2 of the Noise Element) whenever the City's Irvine Traffic Analysis Model (ITAM) has been significantly changed.
- Policy (e): Seek the cooperation of aircraft regulatory agencies in the modification and selection of flight paths that will reduce noise impacts on residential and other noise-sensitive areas.
- Policy (f): Ensure that any proposal to update aircraft noise contours used by the City of Irvine for planning analysis is submitted, before adoption by the City, to the Airport Land Use Commission
- Policy (g): Minimize the use of noise barriers to reduce noise exposure. Consider other attenuation strategies, such as alternative development siting, soundproofing sensitive receptors, building orientation and setbacks, providing buffer areas or landscape berms, modifying source operating hours, modifying roadway design, or utilizing quieter pavement strategies, as applicable, prior to proposing noise barrier installation.
- Policy (h): Consider the following in the design of new highways and streets to minimize noise exposure:
    - Alignment: The three-dimensional position of the road, as it relates to distance from sensitive receptors.
    - Barriers: Any solid material that shields a receiver from a given source of noise. Types of barriers include walls, berms, hills, and intervening structures.
    - Lateral separation: The horizontal distance between the road and a receiver, which may position an alignment to maximize the distance to the receiver

  - Vertical profile: The path of a roadway in the vertical direction, either below-grade (depressed), above-grade (elevated), or at-grade relative to areas adjacent to the road. Generally, traffic noise levels along depressed roadways are substantially lower than those along roadways that are at grade.
- **Policy (i)**: Examine the existing and projected future noise environment when considering amendments to the City's circulation system. Conduct a noise study to determine whether the project would increase ambient noise levels by more than 3 dBA or cause noise levels to exceed acceptable noise standards for adjacent designated land use categories. If so, implement project features, such as the installation of upgraded windows, to achieve acceptable interior noise standards [Table 4.10-8] at affected receptors. For federally funded roadway construction projects, the applicable sound limits shall be the Federal Highway Administration Standards.
- **Policy (j)**: Reduce noise impacts from mobile sources by encouraging the use of alternative modes of transportation. (See Circulation Element)
- **Policy (k)**: Participate in cooperative efforts with Orange County Transit Authority to fund and construct grade separations, where feasible, through residential areas of the City, giving consideration to all potential funding sources.
- **Policy (l)**: Disseminate public information regarding City noise regulations and programs, the health effects of high noise levels, and means of reducing such levels.
- **Policy (m)**: Reduce community noise levels by continuing to maintain roadways so that the paving is in good condition to reduce noise-generating cracks, bumps, and potholes.
- **Policy (n)**: Encourage rail operators to minimize the level of noise produced by train movements and whistle noise within the City by reducing the number of nighttime operations and improving vehicle system technology.
- **Policy (o)**: Limit "through truck traffic" to designated routes to minimize noise impacts to residential neighborhoods and other noise-sensitive uses (See Circulation Element).

Goal 4: Ground-Borne Vibration

Objective N-4. Minimize exposure to ground-borne vibration such that City residents are not exposed to nuisance vibration or potential building damage.

- **Policy (a)**: Coordinate with rail operators to minimize vibration exposure through routine maintenance of wheel and rail surfaces.
- **Policy (b)**: Require all plans submitted for development review that include the use of pile-driving and blasting during construction to consider alternative methods to minimize the potential for building damage and temporary nuisance exposure.
- **Policy (c)**: Require all plans submitted for development review to utilize vibration standards published by the Federal Transit Administration to evaluate the potential effects of vibration exposure from new vibration sources, such as construction, or siting of new receptors near existing vibration sources, such as rail operations.

4.10.3 Significance Determination Thresholds

Thresholds used to evaluate noise impacts are based on applicable criteria in the California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations Sections 15000-15387), Appendix G. A significant impact would occur if the project would:

1) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

2) Generate excessive groundborne vibration or groundborne noise levels; or

3) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

4.10.4 Methodology

4.10.4.1 Vehicle Traffic Noise

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model-FHWA-RD-77-108. The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period.

The off-site traffic noise analysis includes the following traffic scenarios.

- Existing Conditions
- Current General Plan Buildout/No Project Alternative
- Proposed Project (Conservative Alternative)
- Cumulative Proposed Project (Conservative) Alternative
- Reduced Project Alternative
- Cumulative Reduced Project Alternative

Noise contours were used to assess the project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or

topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the City. Existing and future vehicle traffic noise calculations are provided in Appendix E.

4.10.4.2 Railroad Noise

The Metrolink, Amtrak, and BNSF freight trains operate within the City. Noise associated with railroad operations was modeled using the FTA recommended Chicago Rail Efficiency and Transportation Efficiency (CREATE) railroad noise model (Harris Miller & Hanson, Inc. 2006). The number of Amtrak and Metrolink trains that operate during the daytime and nighttime hours were obtained from published schedules. It was assumed that one freight train per hour would operate during the night. Noise contour distances were calculated assuming flat-site conditions and no intervening buildings that would provide noise attenuation.

4.10.4.3 Stationary Noise

Stationary sources of noise include activities associated with a given land use. Various land uses contain on-site stationary noise sources, including rooftop HVAC equipment; mechanical equipment; emergency electrical generators; parking lot activities; loading dock operations; and recreation activities. Stationary noise is considered a "point source" and attenuates over distance at a rate of 6 dB(A) for each doubling of distance. The exact location and nature of future stationary noise sources is not known at this time, and therefore cannot be calculated in this analysis. Impacts were assessed in this analysis by identifying potential types of stationary sources and locations of mixed-use land use interfaces and identifying applicable regulations and mitigation framework for addressing impacts.

4.10.4.4 Construction Noise

Construction noise has the potential to result in temporary ambient noise increases due to construction activities. Construction noise is usually generated by activities such as diesel-powered construction equipment used for site preparation and grading; removal of existing structures and pavement; loading, unloading, and placing materials and paving. Diesel engine-driven trucks also bring materials to the site and remove the spoils from excavation. Table 4.10-10 summarizes typical construction equipment noise levels.

Typical construction equipment would generate maximum noise levels between 70 and 95 dB(A) L_{max} at 50 feet from the source when in operation. During excavation, grading, and paving operations, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for non-equipment tasks, such as measurement. Average construction noise levels were calculated for the simultaneous operation of three common pieces of construction equipment: backhoe, excavator, and loader. The usage factors were applied to the maximum noise level at 50 feet for each piece of equipment, and then noise levels were added logarithmically. Hourly average noise levels would be approximately 83 dB(A) L_{eq} at 50 feet from the center of construction activity when assessing three pieces of common construction equipment working simultaneously. Noise levels would vary depending on the nature of the construction including the duration of

specific activities, nature of the equipment involved, location of the particular receiver, and nature of intervening barriers.

Table 4.10-10
Typical Construction Equipment Noise Levels

Equipment	Noise Level at 50 Feet [dB(A) L_{eq}]	Typical Duty Cycle
Auger Drill Rig	85	20%
Backhoe	80	40%
Blasting	94	1%
Chain Saw	85	20%
Clam Shovel	93	20%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%
Front End Loader	80	40%
Generator (25 kilovolt ampts or less)	70	50%
Generator (more than 25 kilovolt amps)	82	50%
Grader	85	40%
Hydra Break Ram	90	10%
Impact Pile Driver (diesel or drop)	95	20%
In situ Soil Sampling Rig	84	20%
Jackhammer	85	20%
Mounted Impact Hammer (hoe ram)	90	20%
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Roller	74	40%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%
Vibratory Pile Driver	95	20%

SOURCE: FHWA 2006.
dB(A) = A-weighted decibels
L_{eq} = one-hour equivalent noise level.

4.10.4.5 Vibration

Potential sources of groundborne vibration include construction activities, railroad activities, and stationary sources. Table 4.10-11 lists vibration levels for construction equipment.

Table 4.10-11 Vibration Levels for Construction Equipment	
Equipment	Approximate PPV Vibration Level at 25 feet (inch/second)
Pile Driver, Impact (Upper Range)	1.518
Pile Drive, Impact (Typical)	0.644
Pile Driver, Sonic (Upper Range)	0.734
Pile Drive, Sonic (Typical)	0.170
Vibratory Roller	0.210
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003
SOURCE: FTA 2018. PPV = peak particle velocity	

Vibration impacts due to construction equipment were evaluated using these source vibration levels, and the FTA criteria shown in Table 4.10-4. Vibration impacts due to railroad operations were evaluated using the FTA criteria shown in Table 4.10-5 and the FTA screening distances for each land use category. Vibration impacts due to stationary sources were addressed qualitatively.

4.10.5 Topic 1: Increase in Ambient Noise

Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

4.10.5.1 Impact Analysis

a. Traffic Noise

Increase in Ambient Noise

Noise level increases resulting from the project are evaluated based on Appendix G of the State CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing baseline ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes that there is no single noise increase that renders the noise impact significant. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called ambient environment.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}).

The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in baseline ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without project (baseline) noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dB(A) or readily perceptible, 3 dB(A) or barely perceptible, and 1.5 dB(A) depending on the underlying without project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the FHWA and Caltrans.

Based on this guidance, long-term traffic noise that affects sensitive land uses would be considered substantial and constitute a significant noise impact if the project would:

- Increase noise levels by 5 dB or more where the no project noise level is less than 60 CNEL;
- Increase noise levels by 3 dB or more where the no project noise level is 60 CNEL to 65 CNEL; or
- Increase noise levels by 1.5 dB or more where the no project noise level is greater than 65 CNEL.

Implementation of the project would include updates to the City's General Plan (and the resulting increased development capacity of 57,656 residential units), the continued implementation of nonresidential uses at the same intensities permitted under the City's General Plan, implementation of nonresidential uses within the Great Park, and the extension of the Ada roadway.

The noise analysis is based on the baseline (year 2016 for which a complete data set exists) and future (year 2045) traffic volume data. Without the project, existing noise levels are up to 79.0 CNEL at the nearest receiving land uses. With the project, future noise levels are expected to range from 53.2 to 79.2 CNEL at the nearest receiving land uses. Off-site traffic noise level impacts would exceed the noise level increase thresholds along 147 roadway segments. Table 4.10-12 summarizes the existing and future noise levels at the impacted roadway segments under buildout of the project. Based on the significance criteria for off-site traffic noise, land uses adjacent to these study area roadway segments would experience a significant noise level increases due to the Project-related traffic as compared to the existing traffic noise levels.

Table 4.10-12
Significant Traffic Noise Increases Along Study Roadway Segments

ID	Road	Segment	CNEL at Receiving Land Use			Incremental Noise Level Increase Threshold	
			Existing	Future	Project Addition	Limit	Exceeded?
1	Ada	Barranca Parkway to Marine Way	0.0	70.8	70.8	5.0	Yes
2	Ada	Alton Parkway to Barranca Parkway	60.3	69.3	9.0	3.0	Yes
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	74.1	2.8	1.5	Yes
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	74.8	2.7	1.5	Yes
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	72.0	2.7	1.5	Yes
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	70.7	7.0	3.0	Yes
11	Alton Parkway	Technology Drive West to Ada	70.2	72.6	2.4	1.5	Yes
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	70.6	2.5	1.5	Yes
15	Alton Parkway	Telemetry to Banting	69.0	70.5	1.5	1.5	Yes
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	71.3	2.7	1.5	Yes
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	73.7	1.6	1.5	Yes
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	71.2	2.1	1.5	Yes
23	Alton Parkway	Banting to Pacifica	68.4	70.1	1.7	1.5	Yes
25	Alton Parkway	Ada to Technology Drive East	69.2	70.7	1.5	1.5	Yes
38	Alton Parkway	Pacifica to Meridian	69.7	71.7	2.0	1.5	Yes
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	68.3	1.7	1.5	Yes
43	Astor	Lynx to Fairbanks	57.5	67.1	9.6	5.0	Yes
44	Astor	Cadence to Lynx	0.0	65.9	65.9	5.0	Yes
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	73.3	2.8	1.5	Yes
56	Barranca Parkway	Banting to Pacifica	70.7	72.8	2.1	1.5	Yes
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	73.0	3.2	1.5	Yes
58	Barranca Parkway	Technology Drive West to Ada	70.4	72.7	2.3	1.5	Yes
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	72.6	3.3	1.5	Yes
63	Barranca Parkway	Ada to Alton Parkway	70.2	72.2	2.0	1.5	Yes
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	74.8	1.5	1.5	Yes
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	71.7	2.0	1.5	Yes
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	71.1	2.6	1.5	Yes
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	70.8	1.7	1.5	Yes
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	70.6	1.8	1.5	Yes
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	70.5	2.2	1.5	Yes
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	70.4	1.6	1.5	Yes
84	Beacon	Ridge Valley to Benchmark	0.0	59.7	59.7	5.0	Yes
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	56.5	56.5	5.0	Yes
94	Bosque	Great Park Boulevard to Beacon	0.0	56.8	56.8	5.0	Yes
95	Bosque	Beacon to S 5th Street	0.0	56.2	56.2	5.0	Yes
108	Cadence	Merit to Astor	0.0	59.4	59.4	5.0	Yes
109	California Avenue	University Drive to Academy Way	64.3	67.3	3.0	3.0	Yes
112	Campus Drive	Carlson Avenue to University Drive	70.9	73.3	2.4	1.5	Yes
113	Campus Drive	University Drive to Bridge Road	70.1	71.8	1.7	1.5	Yes
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	71.6	2.6	1.5	Yes
116	Campus Drive	California Avenue to Culver Drive	68.9	70.9	2.0	1.5	Yes
118	Campus Drive	Martin to Von Karman Avenue	67.5	69.2	1.7	1.5	Yes
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	68.5	1.7	1.5	Yes
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	67.9	3.4	3.0	Yes
149	Culver Drive	Portola Parkway to Settlers	68.9	71.2	2.3	1.5	Yes
153	Culver Drive	Settlers to Furrow	0.0	68.6	68.6	5.0	Yes
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	65.5	8.9	5.0	Yes
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	63.6	63.6	5.0	Yes
167	Fairbanks	Alton Parkway to Astor	61.3	69.9	8.6	3.0	Yes
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	66.9	66.9	5.0	Yes

Table 4.10-12
Significant Traffic Noise Increases Along Study Roadway Segments

ID	Road	Segment	CNEL at Receiving Land Use			Incremental Noise Level Increase Threshold	
			Existing	Future	Project Addition	Limit	Exceeded?
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	63.5	6.5	5.0	Yes
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	74.6	4.1	1.5	Yes
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	70.4	6.4	3.0	Yes
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	69.1	69.1	5.0	Yes
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	68.4	68.4	5.0	Yes
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	67.5	2.0	1.5	Yes
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	67.4	1.9	1.5	Yes
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	67.8	1.7	1.5	Yes
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	68.9	2.1	1.5	Yes
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	57.5	57.5	5.0	Yes
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	72.8	1.5	1.5	Yes
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	72.0	2.3	1.5	Yes
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	71.9	2.2	1.5	Yes
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	71.7	2.2	1.5	Yes
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	71.6	1.9	1.5	Yes
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	71.6	2.0	1.5	Yes
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	71.7	2.3	1.5	Yes
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	71.5	1.8	1.5	Yes
233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	71.4	2.5	1.5	Yes
234	Irvine Center Drive	Spectrum to Pacifica	68.9	71.3	2.4	1.5	Yes
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	71.0	1.8	1.5	Yes
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	71.0	2.9	1.5	Yes
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	70.7	1.6	1.5	Yes
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	70.7	2.6	1.5	Yes
241	Irvine Center Drive	Research to Hubble	67.9	70.0	2.1	1.5	Yes
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	70.2	3.3	1.5	Yes
243	Irvine Center Drive	Bake Parkway to Muller	67.9	69.8	1.9	1.5	Yes
244	Irvine Center Drive	Discovery to Charter	67.3	70.2	2.9	1.5	Yes
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	69.6	1.8	1.5	Yes
246	Irvine Center Drive	Muller to Tesla	67.7	69.4	1.7	1.5	Yes
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	69.4	1.8	1.5	Yes
248	Irvine Center Drive	Tesla to Scientific Way	67.1	69.1	2.0	1.5	Yes
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	68.9	1.7	1.5	Yes
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	68.9	2.2	1.5	Yes
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	68.9	2.1	1.5	Yes
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	68.9	2.1	1.5	Yes
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	71.1	1.5	1.5	Yes
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	70.0	2.3	1.5	Yes
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	69.5	4.7	3.0	Yes
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	68.0	2.0	1.5	Yes
301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	69.0	5.4	3.0	Yes
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	68.0	2.0	1.5	Yes
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	67.1	1.6	1.5	Yes
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	67.5	3.0	3.0	Yes
311	Lynx	Irvine Boulevard to Astor	0.0	53.2	53.2	5.0	Yes
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	70.9	1.5	1.5	Yes

Table 4.10-12
Significant Traffic Noise Increases Along Study Roadway Segments

ID	Road	Segment	CNEL at Receiving Land Use			Incremental Noise Level Increase Threshold	
			Existing	Future	Project Addition	Limit	Exceeded?
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	72.3	4.5	1.5	Yes
337	Marine Way	Alton Parkway to Bake Parkway	0.0	69.5	69.5	5.0	Yes
338	Marine Way	Lynx to Barranca Parkway	0.0	69.3	69.3	5.0	Yes
339	Marine Way	County Access to Treble	59.3	68.5	9.2	5.0	Yes
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	68.3	6.3	3.0	Yes
341	Marine Way	Skyhawk to County Access	59.3	67.4	8.1	5.0	Yes
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	66.8	14.1	5.0	Yes
343	Marine Way	Treble to Lynx	0.0	66.6	66.6	5.0	Yes
352	Michelson Drive	Riparian to Harvard Avenue	66.7	68.3	1.6	1.5	Yes
355	Michelson Drive	Parkside to Culver Drive	66.2	67.8	1.6	1.5	Yes
357	Michelson Drive	Carlson to Prince	65.4	67.3	1.9	1.5	Yes
361	Michelson Drive	Jamboree Road to Carlson	68.0	69.6	1.6	1.5	Yes
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	69.7	3.5	1.5	Yes
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	71.8	1.5	1.5	Yes
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	71.8	1.5	1.5	Yes
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	71.5	1.9	1.5	Yes
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	71.1	1.5	1.5	Yes
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	70.1	4.6	1.5	Yes
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	70.4	1.8	1.5	Yes
393	Portola Parkway	Silverado to Portola Springs	66.5	68.7	2.2	1.5	Yes
405	Research Drive	Hubble to Bake Parkway	65.4	69.7	4.3	1.5	Yes
406	Research Drive	Scientific to Lake Forest Drive	65.6	67.8	2.2	1.5	Yes
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	67.3	1.8	1.5	Yes
415	Rockfield Avenue	Whatney to McLaren	66.3	67.8	1.5	1.5	Yes
418	Roosevelt	Jeffrey Road to Vision	65.2	66.7	1.5	1.5	Yes
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	72.2	1.5	1.5	Yes
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	72.8	1.6	1.5	Yes
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	74.8	2.1	1.5	Yes
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	71.0	1.8	1.5	Yes
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	70.9	1.6	1.5	Yes
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	70.3	2.3	1.5	Yes
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	59.5	6.7	5.0	Yes
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	70.8	3.8	1.5	Yes
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	69.6	6.4	3.0	Yes
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	69.4	6.6	3.0	Yes
454	Technology Drive	Ada to Alton Parkway	57.8	63.7	5.9	5.0	Yes
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	68.7	68.7	5.0	Yes
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	68.1	5.1	3.0	Yes
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	69.5	4.3	1.5	Yes
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	67.2	4.3	3.0	Yes
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	71.0	2.1	1.5	Yes
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	70.9	2.1	1.5	Yes
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	70.8	1.5	1.5	Yes
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	70.4	2.0	1.5	Yes
493	Von Karman Avenue	Main Street to Anchor	69.2	70.7	1.5	1.5	Yes
496	Von Karman Avenue	Martin to Dupont Drive	67.8	69.7	1.9	1.5	Yes
497	Von Karman Avenue	Campus Drive to Martin	67.8	69.6	1.8	1.5	Yes
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	69.6	1.8	1.5	Yes

Table 4.10-12
Significant Traffic Noise Increases Along Study Roadway Segments

ID	Road	Segment	CNEL at Receiving Land Use			Incremental Noise Level Increase Threshold	
			Existing	Future	Project Addition	Limit	Exceeded?
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	71.0	2.1	1.5	Yes
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	66.6	1.6	1.5	Yes
539	Yale Avenue	University Drive to Royce	57.9	63.5	5.6	5.0	Yes

SOURCE: Appendix G.

It should be noted that without approval of the project, a significant increase in ambient noise levels would also occur with buildout with the adopted General Plan. This is due to regional growth under the adopted General Plan (2000). Buildout conditions will range from 53.5 to 79.1 CNEL, except along Ada Street since it would not exist under the current General Plan. Under buildout of the adopted General Plan, off-site traffic noise level impacts would exceed noise level increase thresholds along 86 segments.

The Noise Element Update includes measures to reduce vehicle noise. As discussed in detail in the Land Use Compatibility section below, future development under the project would be subject to policies under Goal N-1, Objective N-1, which would require future development to control noise through land use planning and design. Future development would be required to prepare noise studies in accordance with the City's environmental review procedure for all projects that are not "clearly compatible" with the future noise level at the site. These studies are required to identify all measures necessary to reduce noise levels to meet the City's interior and exterior noise compatibility standards and Single Event Noise Standard. Through implementation of these policies, noise levels at new noise-sensitive land uses would be evaluated and noise reduction techniques would be implemented to reduce noise exposure.

For existing land uses exposed to significant increase in noise, the Noise Element Update contains policies under Goal N-3, Noise Abatement, Objective N-3. Policy (i) that would require an examination of the existing and future noise environment when considering amendments to the City's circulation system. It requires the implementation of project features, such as the installation of upgraded windows, to achieve acceptable interior noise standards at affected receptors. Policy (j) seeks to reduce noise impacts from mobile sources by encouraging the use of alternative modes of transportation. Policy (m) reduces community noise levels by continuing to maintain roadways so that the paving is in good condition to reduce noise-generating cracks, bumps, and potholes. However, the increase in ambient noise levels adjacent to the roadway segments listed above would likely remain at levels that would expose existing noise-sensitive receptors to a significant increase in ambient noise levels, and impacts would be significant.

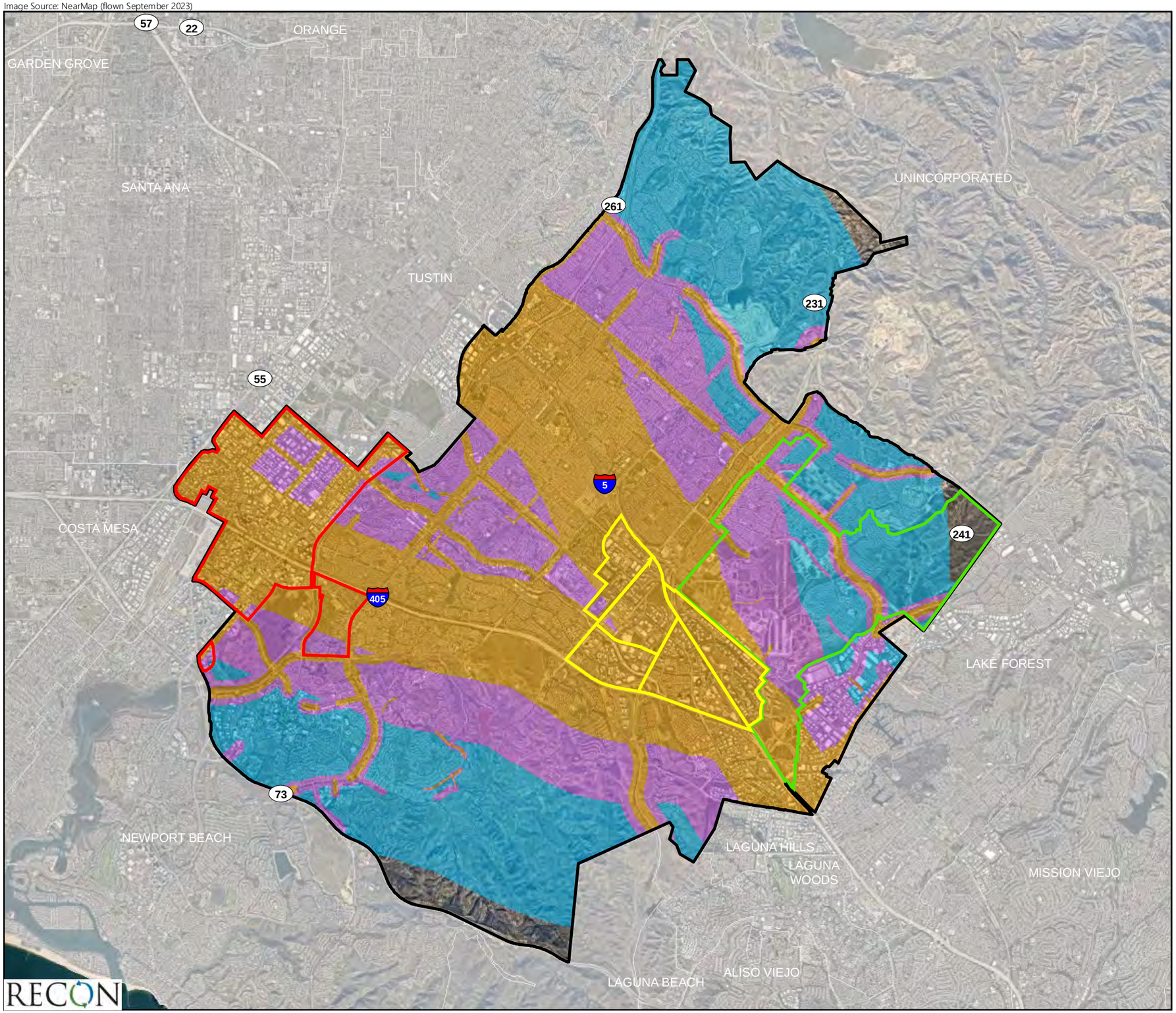
Land Use Compatibility

Future vehicle traffic noise contours are shown in Figure 4.10-5. These noise contours account for future traffic generated by development of the project, as well as the extension of Ada roadway. A significant impact would occur if implementation of the project resulted in an exposure of people to current or future motor vehicle traffic noise levels that exceed standards established in the Noise Element Update (see Tables 4.10-8 and 4.10-9).

The project focuses mixed-use development in existing urbanized areas throughout the City using overlay zones. Most of the increased density is proposed in Focus Areas 1, 2 and 3, which are located near existing or planned travel corridors. Focus Area 1 is in the Irvine Business Complex (IBC) and would expand residential and mixed-uses to sites previously designated for nonresidential uses through implementation of the proposed residential and residential mixed-use overlay. Focus Area 2 is in the Greater Spectrum Area and would expand residential uses through the implementation of the new overlay. Focus Area 3 is in the Great Park Neighborhood Transit Village and would also allow for residential uses on nonresidential properties through implementation of the proposed overlay. The Great Park Neighborhood is an existing mixed-use planning area that features a mix of residential uses at varying densities surrounding the Irvine Great Park. The project would increase the number of residential units permitted in the Great Park with a focus on higher density near or adjacent to the Irvine Transit Center. Additionally, the project utilizes a customized concept of transit-oriented development to suit the unique context of the Greater Irvine Business Complex Area, the Greater Spectrum Area, and the Great Park Neighborhood Transit Village Area. Transit-oriented development permits greater residential densities and a wider range of land uses, such as offices, housing, retail, and services, in select geographic areas.

As shown in Figure 4.10-5, these focus areas are located adjacent to freeways and other heavily traveled roadways. Noise-sensitive uses that are developed near higher-volume roadways could experience noise levels exceeding the proposed Noise Element Update noise standards, particularly for those uses located near freeways. The Noise Element Update contains policies under Goal N-1, Objective N-1 that would require future development implemented under the project to control noise through land use planning and design. Future development would be required to prepare noise studies in accordance with the City's environmental review procedure for all projects that are not "clearly compatible" with the future noise level at the site. These studies are required to identify all measures necessary to reduce noise levels to meet the City's interior and exterior noise compatibility standards and Single Event Noise Standard. Conditional use permits would be required for noise-sensitive land uses such as hospitals, libraries, churches, and schools located in areas not "clearly compatible" to demonstrate how exterior noise exposure would be minimized, such as building orientation, shielding, or limiting outdoor programs. Additionally, mixed-use and multi-family residential developments are required to demonstrate noise compatibility between uses. Further, the Noise Element Update contains the following implementing actions under Goal N-1:

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3

Future Traffic Noise

60 CNEL
65 CNEL
70 CNEL

0 Miles 1.5

RECON

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FIGURE 4.10-5
Future Traffic Noise Contours

- Conduct comprehensive noise impact assessments for proposed development projects to evaluate potential noise sources and their impact on surrounding areas. Use predictive modeling and noise mapping techniques to assess noise levels at different locations and identify reduction measures to ensure compliance with noise standards.
- Prioritize site selection for new development projects in areas with lower ambient noise levels and minimal exposure to noise sources, such as heavy traffic or industrial activities. Consider proximity to noise-sensitive land uses, such as residential areas, schools, hospitals, and parks, when siting new developments.
- Establish noise buffer zones or green spaces between noise-generating activities and noise-sensitive land uses to mitigate the transmission of noise and protect vulnerable populations. Designate setbacks or open space corridors to create natural barriers that absorb or deflect noise away from sensitive receptors.
- Orient buildings and structures to minimize exposure to noise sources and maximize natural sound attenuation. Design building layouts and configurations to create quiet zones or shield noise-sensitive areas from adjacent noise sources, such as roads, railways, or industrial facilities.
- Incorporate sound-absorbing materials, insulation, and architectural features into building design and construction to reduce indoor noise levels and enhance occupant comfort. Utilize noise-reducing technologies, such as double-glazed windows, soundproofing walls, and resilient flooring, to mitigate noise intrusion from external sources.
- Implement traffic calming measures, such as speed limits, traffic calming devices, and road design modifications, to reduce vehicle-related noise emissions and enhance pedestrian safety. Design access routes and circulation patterns to minimize noise impacts on adjacent properties and improve traffic flow efficiency.
- Utilize landscaping and vegetation strategies to create natural barriers and absorb sound waves, reducing the transmission of noise between land uses. Plant trees, shrubs, and hedges strategically to create green buffers and enhance visual screening while providing habitat and aesthetic benefits.
- Establish noise easements or restrictive covenants as part of property agreements to limit future development or land uses that could exacerbate noise impacts in sensitive areas. Ensure that developers and property owners adhere to noise reduction requirements and maintain compliance with noise standards over time.
- Engage with local communities, stakeholders, and residents early in the planning and design process to solicit input, address concerns, and build consensus around noise mitigation strategies. Foster collaboration and partnership with community organizations, neighborhood associations, and advocacy groups to ensure that noise considerations are integrated into decision-making processes.
- Implement monitoring programs to assess compliance with noise standards and evaluate the effectiveness of noise reduction measures over time. Conduct regular inspections, noise surveys, and performance evaluations to verify compliance with approved plans and address any non-compliance issues promptly.

However, traffic noise would likely remain at levels that that would exceed exterior and interior standards, and impacts would be significant.

b. Railroad Noise

The Metrolink, Amtrak, and BNSF freight trains operate within the City. Railroad noise contours are shown in Figure 4.10-4 and contour distances are summarized in Table 4.10-13.

Table 4.10-13
Railroad Noise Contour Distances

Station	Noise Level at 50 feet (CNEL)	Distance to Noise Contour (feet)		
		70 CNEL	65 CNEL	60 CNEL
Irvine Station	75	155	490	1,551

CNEL = community noise equivalent level

As shown in Figure 4.10-4, Focus Areas 2 and 3 are exposed to significant railroad noise level. Noise-sensitive receivers in the vicinity of the railroad tracks could be exposed to noise levels that exceed the compatibility standards. However, the Noise Element Update contains policies under Goal N-1, Objective N-1 that would require future development implemented under the project to control noise through land use planning and design. This includes development exposed to railroad noise. Additionally, Policy (e) implements the Single Event Noise Standard for noise-sensitive land uses within the 60 CNEL of aircraft and railroad noise sources. Policy (n) encourages rail operators to minimize the level of noise produced by train movements and whistle noise within the City by reducing the number of nighttime operations and improving vehicle system technology. However, noise associated with railroad operations would likely remain at levels that would expose existing noise-sensitive receptors to a significant increase in ambient noise levels, and impacts would be significant.

c. Stationary Noise

A significant impact would occur if implementation of the project resulted in the exposure of people to noise levels that exceed property line limits established in Municipal Code under Title 6 Public Morals, Division 8 Pollution, Chapter 2 Noise (see Table 4.10-7). Stationary sources of noise include activities associated with a given land use. For example, noise sources from commercial land uses would include car washes, fast food restaurants, auto repair facilities, parking lots, and a variety of other uses. Noise generated by residential or commercial uses is generally short-lived and intermittent, while noise generated by auto-oriented commercial and industrial uses is usually sporadic, highly variable, and spatially distributed. Noise sources from industrial uses would include mechanical equipment, generators, and trucks. Additionally, potential noise conflicts could occur in mixed-use areas where residential uses are close to commercial and retail uses.

The type of land uses proposed under the project would be similar to land uses that currently exist in the City. The project would primarily focus future development and redevelopment within the three focus areas. Noise levels within the City are currently dominated by vehicle traffic on freeways and heavily traveled area roadways and would continue to be the primary source of noise under

project buildout. Therefore, future noise levels from stationary sources throughout the City would not be expected to increase the hourly or daily average sound level with respect to current conditions. While noise-sensitive residential land uses would be exposed to noise associated with the operation of commercial and industrial uses, future development would be required to show compliance with the Municipal Code. Additionally, the Noise Element Update contains policies to reduce impacts associated with stationary sources of noise. Specifically, Goal N-2, Objective N-2, Policy (b) requires project applicants to depict, on any appropriate development application review (including, but not limited to, zone changes, subdivisions, conditional use permit, site plan, and building plans), any potential noise sources known at the time of submittal and reduction measures that ensure these noise sources meet the City Noise Ordinance standards. Policy (c) limits the hours of operation for portions of parks and active recreation uses adjacent to residential areas to daytime hours to minimize disturbance to residents.

The Noise Element Update also includes a comprehensive list of measures that are required for outdoor events with amplified music. These events could be held at the Irvine amphitheater located in the eastern portion of the City and at parks and other open spaces. Noise from amplified music could be a disturbance to residences and other noise-sensitive land uses located in the vicinity. However, Goal N-2, Objective N-2, Policy (d) requires outdoor events with amplified noise to implement best management practices to reduce nuisance noise exposure. Noise minimization measures would be required as a part of the permitting process for events.

However, noise associated with stationary noise would likely remain at levels that would expose existing noise-sensitive receptors to a significant increase in ambient noise levels, and impacts would be significant.

d. Construction Noise

Implementation of the project would result in various development projects being constructed simultaneously and over the duration of General Plan buildout. Future development implemented under the project could result in a temporary ambient noise increase due to construction activities. Due to the developed nature of the City, there is a high likelihood that construction activities would take place adjacent to existing structures and that sensitive receptors would be close to construction activities.

Construction noise typically occurs intermittently and varies depending upon the nature or phase of construction (e.g., demolition; land clearing, grading, and excavation; erection). Construction noise would be short term and would include noise from activities such as site preparation, truck hauling of material, pouring of concrete, and the use of power tools. Noise would also be generated by construction equipment use, including earthmovers, material handlers, and portable generators, and could reach high noise levels for brief periods.

As discussed in Section 4.13.3.4 above, hourly average noise levels would be approximately 83 dB(A) L_{eq} at 50 feet from the center of construction activity when assessing three pieces of common construction equipment working simultaneously. Noise levels would vary depending on the nature of the construction activities including the duration of specific activities, the equipment involved, the location of the sensitive receivers, and the presence of intervening barriers. Construction noise levels

of 83 dB(A) L_{eq} at 50 feet would attenuate to 80 dB(A) L_{eq} at 70 feet. Therefore, significant impacts would occur if sensitive land uses are located closer than 70 feet of construction activities.

The City regulates construction noise through Municipal Code Section 66-8-205(A) and Municipal Code Zoning Ordinance Chapter 5 Overlay Districts, Chapter 5-8 Irvine Business Complex Residential Mixed-Use Overlay District, Section 5-8-4. The City limits construction activities to 7:00 a.m. and 7:00 p.m. Mondays through Fridays, and 9:00 a.m. and 6:00 p.m. on Saturdays. Additionally, Goal N-2, Objective N-2, Policy (a) requires any new construction to meet the City Noise Ordinance standards.

Implementation of the project would increase development capacity within the City. As noted previously, construction noise levels are variable and depend on specific locations, site plans, and construction details relative to specific projects. Significant noise impacts may occur associated with individual projects which have not yet been developed, particularly if construction techniques (e.g., pile driving) are proposed. However, construction would be localized and would occur intermittently for varying periods of time in accordance with the City's Municipal Code, Zoning Ordinance, and Noise Element.

Because project-level information is not yet available, it is not possible to quantify construction noise impacts at noise-sensitive receptors. In most cases, construction of individual projects would temporarily increase the ambient noise environment, potentially affecting existing and future sensitive receptors. Mitigation measure NOI-1 and Noise Element goals, objectives, and policies (Goal N-2, Objective N-2, Policy (a)) would serve to minimize construction noise. However, because construction activities may occur near noise-sensitive uses and because noise disturbances could occur for prolonged periods of time or during noise-sensitive hours of the day, construction noise impacts associated with future development would be significant and would require mitigation.

4.10.5.2 Significance of Impacts

a. Traffic Noise

Increase in Ambient Noise

The increase in ambient noise levels adjacent to roadway segments listed in Table 4.10-12 would expose existing noise-sensitive receptors to a significant increase in ambient noise levels, and impacts would be significant.

Land Use Compatibility

Per existing General Plan Noise Element Policy F-1(d) and the Noise Element Update, future development proposals within the City would be required to conduct site-specific exterior and interior noise analyses to demonstrate that the proposed development would not place sensitive receptors in locations where the existing or future noise levels would exceed the land use compatibility standards. However, because specific project details are not yet known, impacts associated with land use compatibility conflicts would be significant.

b. Railroad Noise

The Noise Element Update contains policies under Goal N-1, Objective N-1 that would require future development implemented under the project to control noise through land use planning and design. This includes development exposed to railroad noise. However, because specific project details are not yet known, railroad noise impacts associated with new development would be significant.

c. Stationary Noise

Future development would be required to show compliance with the Municipal Code. Additionally, the Noise Element Update contains policies to reduce impacts associated with stationary sources of noise. However, because specific project details are not yet known, impacts associated with stationary sources of noise would be significant.

d. Construction Noise

The City limits construction activities to 7:00 a.m. and 7:00 p.m. Mondays through Fridays, and 9:00 a.m. and 6:00 p.m. on Saturdays. Additionally, Goal N-2, Objective N-2, Policy (a) requires any new construction to meet the City Noise Ordinance standards. However, because specific project details are not yet known and because construction activities could expose noise-sensitive uses to periods of high level construction noise, construction noise impacts associated with future development under the project would be significant. Despite adherence with the City's Municipal Code, Zoning Ordinance, and Noise Element, impacts would remain significant.

4.10.5.3 Mitigation

a. Traffic Noise

Increase in Ambient Noise

Impacts associated with the increase in ambient noise and land use compatibility would be significant without mitigation. For existing noise sensitive land uses, possible noise-reduction measures would include retrofitting older structures with acoustically rated windows and doors featuring higher Sound Transmission Class ratings, which is a measure of exterior noise reduction performance. However, there is no mechanism in place for implementing such a retrofit program. Because the significant noise impacts would be to existing homes and other noise-sensitive uses in an already urbanized area, there is no feasible mitigation. Mitigation for future development under the project is presented below.

NOI-1: Prior to the issuance of building permits, site-specific exterior noise analyses that demonstrate that the project would not place residential receptors in locations where the exterior existing or future noise levels would exceed the City's noise compatibility standards shall be required as part of the review of future residential development proposals. Noise reduction measures, including but not limited to building noise barriers, increased building setbacks, speed reductions on surrounding roadways, alternative pavement surfaces, or other relevant noise attenuation measures, may be

used to achieve the noise compatibility standards. Exact noise mitigation measures and their effectiveness shall be determined by the site-specific exterior noise analyses.

NOI-2: Prior to the issuance of building permits, site specific interior noise analyses demonstrating compliance with the City's interior noise compatibility standards and other applicable regulations shall be prepared for noise sensitive land uses located in areas where the exterior noise levels exceed the City's noise compatibility standards. Noise control measures, including but not limited to increasing roof, wall, window, and door sound attenuation ratings, placing HVAC in noise reducing enclosures, or designing buildings so that no windows face freeways or major roadways may be used to achieve the noise compatibility standards. Exact noise mitigation measures and their effectiveness shall be determined by the site specific exterior noise analyses.

Land Use Compatibility

See mitigation measures NOI-1 and NOI-2 above.

b. Railroad Noise

See mitigation measures NOI-1 and NOI-2 above.

c. Stationary Noise

NOI-3: Prior to the issuance of a building permit, a site-specific acoustical/noise analysis of any on-site generated noise sources, including generators, mechanical equipment, and trucks, shall be prepared which identifies all noise-generating equipment, predicts noise levels at property lines from all identified equipment, and recommends mitigation to be implemented (e.g., enclosures, barriers, site orientation), to ensure compliance with the City's noise standards. Noise reduction measures shall include building noise-attenuating walls, limiting the hours of operation, or other attenuation measures. Additionally, future projects shall be required to buffer sensitive receptors from noise sources through the use of open space and other separation techniques as recommended after thorough analysis by a qualified acoustical engineer. Exact noise mitigation measures and their effectiveness shall be determined by the site specific noise analyses.

d. Construction Noise

NOI-4: Construction contractors shall implement the following measures for construction activities conducted in the City of Irvine. Construction plans submitted to the City shall identify these measures on demolition, grading, and construction plans submitted to the City:

- The City of Irvine Community Development Department shall verify that grading, demolition, and/or construction plans submitted to the City include these notations prior to issuance of demolition, grading, and/or building permits.

- Construction activity is limited to the hours: Between 7:00 AM to 7:00 PM Monday through Friday and 9:00 a.m. and 6:00 p.m. on Saturdays as prescribed in Municipal Code Section 66-8-205(A). No construction activities shall be permitted outside of these hours or on Sundays and federal holidays, except Columbus Day, unless a temporary waiver is granted by the Chief Building Official or their authorized representative.
- During the entire active construction period, equipment and trucks used for project construction shall use the best-available noise control techniques (e.g., improved mufflers, equipment re-design, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds), wherever feasible.
- Impact tools (e.g., jack hammers and hoe rams) shall be hydraulically or electrically powered wherever possible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools.
- Stationary equipment, such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses.
- Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors.
- Construction traffic shall be limited, to the extent feasible, to approved haul routes established by the City of Irvine Community Development Department.
- At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction days and hours, as well as the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, he/she shall investigate, take appropriate corrective action, and report the action to the City.
- Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes.
- During the entire active construction period and to the extent feasible, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall use smart back-up alarms, which automatically adjust the alarm level based on the background noise level or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws.
- Erect temporary noise barriers (at least as high as the exhaust of equipment and breaking line-of-sight between noise sources and sensitive receptors), as necessary and feasible, to maintain construction noise levels at or below the performance standard of 80 dBA Leq. Barriers shall be constructed with a solid

material that has a density of at least 4 pounds per square foot with no gaps from the ground to the top of the barrier.

4.10.5.4 Significance of Impacts after Mitigation

a. Traffic Noise

Increase in Ambient Noise

Impacts to existing sensitive land uses located in areas that would experience a significant increase in ambient noise levels exceeding the applicable land use and noise compatibility level would be significant and unavoidable at this program level of review. Implementation of mitigation measures NOI-1 and NOI-2 would reduce noise exposure for future development to the extent feasible. However, site-specific development projects are not currently available, and there is a potential for noise to exceed the City's noise standards. Therefore, despite adherence to mitigation measures NOI-1 and NOI-2, impacts associated with increases in ambient noise would remain significant and unavoidable.

Land Use Compatibility

Implementation of mitigation measures NOI-1 and NOI-2 would reduce noise exposure for future development to the extent feasible. However, site-specific development projects are not currently available, and there is a potential for noise to exceed the City's noise standards. Therefore, despite adherence to mitigation measures NOI-1 and NOI-2, impacts associated with land use incompatibility would remain significant and unavoidable.

b. Railroad Noise

Implementation of mitigation measures NOI-1 and NOI-2 would reduce impacts related to railroad noise to a level less than significant.

c. Stationary Noise

Implementation of mitigation measure NOI-3 would reduce impacts related to stationary noise to a level less than significant.

d. Construction Noise

Implementation of mitigation measure NOI-4 would reduce impacts related to construction noise to a level less than significant.

4.10.6 Topic 2: Vibration

Would the project generate excessive groundborne vibration or groundborne noise levels?

4.10.6.1 Impact Analysis

a. Construction

Construction activities may include demolition of existing structures, site preparation work, excavation of parking and subfloors, foundation work, and building construction. Demolition for an individual site may last several weeks to months and may produce substantial vibration. Excavation for underground levels could also occur on some development sites, and vibratory pile driving could be used to stabilize the walls of excavated areas. Piles or drilled caissons may also be used to support building foundations.

As with any type of construction, vibration levels during any phase may at times be perceptible. However, non-pile driving or foundation work construction phases that have the highest potential of producing vibration (such as jackhammering and other high-power tools) would be intermittent and would only occur for short periods of time for any individual development site. By use of administrative controls, such as scheduling construction activities with the highest potential to produce perceptible vibration to hours with least potential to affect nearby properties, perceptible vibration can be kept to a minimum and as such would result in a less than significant impact with respect to perception.

Pile driving has the potential to generate the highest groundborne vibration levels and is the primary concern for structural damage when it occurs within close to structures. As shown in Table 4.10-11, vibration generated by construction equipment has the potential to be substantial, since it has the potential to exceed the FTA criteria for architectural damage (e.g., 0.12 PPV for fragile or historical resources, 0.2 PPV for non-engineered timber and masonry buildings, and 0.3 PPV for engineered concrete and masonry). Construction details and equipment for future project-level development is not known. Noise Element Update contains policies under Goal N-4, Objective N-4 to minimize impacts associated with construction vibration. Specifically, Policy (b) requires all plans submitted for development review that include the use of pile-driving and blasting during construction to consider alternative methods to minimize the potential for building damage and temporary nuisance exposure. Policy (c) requires all plans submitted for development review to utilize vibration standards published by the Federal Transit Administration to evaluate the potential effects of vibration exposure from new vibration sources, such as construction, or siting of new receptors near existing vibration sources, such as rail operations. Despite implementation of these policies and implementing actions, future development would result in potentially significant construction vibration impacts requiring mitigation.

b. Railroad

The Metrolink, Amtrak, and BNSF freight trains operate within the City. Construction of vibration-sensitive uses close to railroad tracks can cause rattling windows and vibration of floors. Train vibration depends upon a variety of factors. The weight of the train, the travel speed, the condition of the track and the character of the subsoil all affect the observed vibration level. Vibration impacts due to the proximity of land uses to the rail corridor were analyzed using the FTA criteria shown in Table 4.13-5. Based on published schedules, 34 Metrolink trains and 20 Amtrak trains operate through the City each day. These are considered occasional events (30 to 70 per day). As shown in Table 4.13-5, a significant vibration impact may occur if Category 1, 2, and 3 land uses are exposed to vibration levels of 65, 75, and 78 VdB, respectively, for occasional events.

Figure 4.10-6 shows the generalized ground surface vibration curves that are based on measurements of ground-borne vibration at representative North American transit systems (FTA 2018). These curves can be used to represent vibration characteristics for standard transportation systems. Using these curves, Category 1 land uses would be exposed to significant vibration levels within approximately 350 feet of the railroad tracks, Category 2 land uses would be exposed to significant vibration levels within approximately 140 feet of the railroad tracks, and Category 3 land uses would be exposed to significant vibration levels within approximately 120 feet of the railroad tracks. Additionally, the Noise Element Update contains policies under Goal N-4, Objective N-4 to minimize impacts associated with railroad vibration. Specifically, Policy (a) requires the City to coordinate with rail operators to minimize vibration exposure through routine maintenance of wheel and rail surfaces. Policy (c) requires all plans submitted for development review to utilize vibration standards published by the Federal Transit Administration to evaluate the potential effects of vibration exposure from new vibration sources, such as construction, or siting of new receptors near existing vibration sources, such as rail operations. Further, the Noise Element Update contains the following implementing actions under Goal N-4 related to railroad vibration:

- Explore the use of quieter vehicles, buses, or trains or retrofit existing infrastructure with noise-reducing technologies.
- Develop and promote building design guidelines that incorporate measures to reduce the transmission of ground-borne vibration, such as adequate building separation, resilient building materials, or structural isolation systems.

Despite implementation of these policies and implementing actions, future development could result in potentially significant railroad vibration impacts.

Source: FTA Report No. 0123, 2018

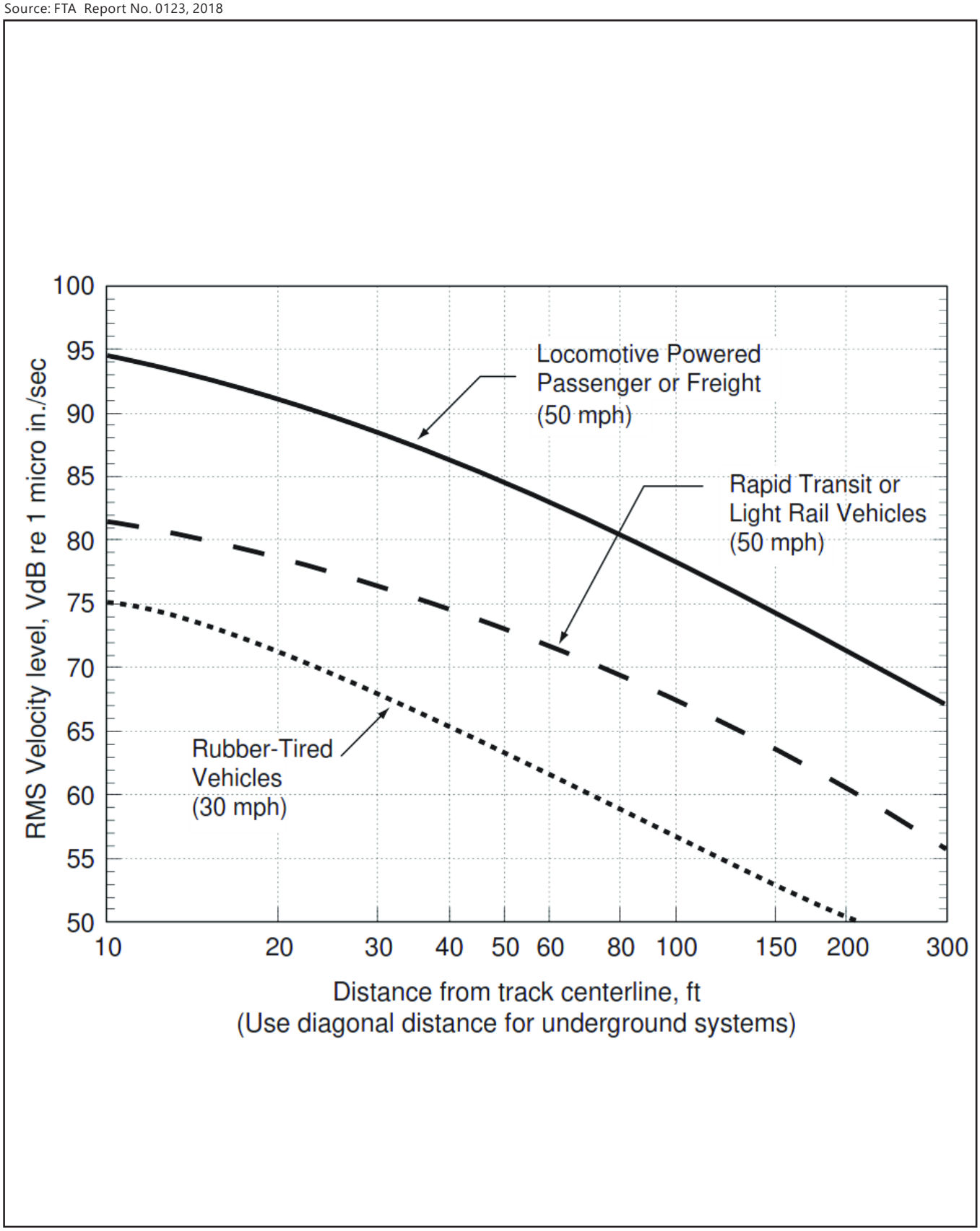

FIGURE 4.10-6
Generalized Ground Surface Vibration Curve

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c. Stationary Sources

Industrial manufacturing operations occasionally utilize equipment or processes that have a potential to generate groundborne vibration. However, vibrations found to be excessive for human exposure that are the result of industrial machinery are generally addressed from an occupational health and safety perspective. The residual vibrations are typically of such low amplitude that they quickly dissipate into the surrounding soil and are rarely perceivable at the surrounding land uses. Furthermore, the project does not propose any industrial manufacturing uses. Residential and commercial uses do not typically generate vibration. Therefore, vibration impacts associated with stationary sources would be less than significant.

4.10.6.2 Significance of Impacts

a. Construction

The Noise Element Update contains policies and implementing actions under Goal N-4, Objective N-4 to minimize impacts associated with construction vibration. However, because specific project details are not yet known, construction vibration impacts would be significant.

b. Railroad

The Noise Element Update contains policies under Goal N-4, Objective N-4 to minimize impacts associated with railroad vibration. However, because specific project details are not yet known railroad vibration impacts would be significant.

c. Stationary Sources

Vibration impacts associated with stationary sources would be less than significant.

4.10.6.3 Mitigation

a. Construction

NOI-5: Prior to issuance of a building permit for a project requiring pile driving during construction within 135 feet of fragile structures, such as historical resources, 100 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of engineered concrete and masonry (no plaster); or a vibratory roller within 25 feet of any structure, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration (FTA) architectural damage thresholds (e.g., 0.12 inches per second [in/sec] peak particle velocity [PPV] for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If vibration levels would exceed this threshold, alternative uses such as drilling piles as opposed to pile driving and

static rollers as opposed to vibratory rollers shall be used. If necessary, construction vibration monitoring shall be conducted to ensure vibration thresholds are not exceeded.

b. Railroad

NOI-6: New residential projects (or other noise-sensitive uses) located within 200 feet of existing railroad lines shall be required to conduct a groundborne vibration and noise evaluation consistent with Federal Transit Administration (FTA)-approved methodologies.

c. Stationary Sources

Impacts would be less than significant. No mitigation is required.

4.10.6.4 Significance of Impacts after Mitigation

a. Construction

Implementation of mitigation measure NOI-5 would reduce exposure to construction vibration to the extent feasible. However, site-specific development projects are not currently available, and there is a potential for construction vibration to exceed the applicable standards. Therefore, despite adherence to mitigation measure NOI-5, impacts associated with construction vibration would remain significant and unavoidable.

b. Railroad

Implementation of mitigation measure NOI-6 would reduce exposure to railroad vibration to a level less than significant.

c. Stationary Sources

Impacts would be less than significant. No mitigation is required.

4.10.7 Topic 3: Airports

Would the project expose people residing or working in the project area to excessive aircraft noise levels?

4.10.7.1 Impact Analysis

John Wayne Airport is located immediately adjacent to the western boundary of the City, generally bounded by I-405, State Route 55, State Route 73, and Campus Drive. Airport noise contours are shown in Figure 4.10-3 and the Orange County ALUC noise compatibility criteria are shown in Table 4.10-6. The 60 CNEL noise contour extends into the western portion of Focus Area 1. The project would expand residential and mixed-uses to sites previously designated for nonresidential

uses within Focus Area 1. Residential and other noise sensitive land uses located within the 60 CNEL contour for John Wayne Airport could be exposed to significant airport noise levels. However, the Noise Element Update contains policies under Goal N-1, Objective N-1 that would require future development implemented under the project to control noise through land use planning and design. This includes development exposed to airport noise. Future development would be required to prepare noise studies in accordance with the City's environmental review procedure for all projects that are not "clearly compatible" with the future noise level at the site. These studies are required to identify all measures necessary to reduce noise levels to meet the City's interior and exterior noise compatibility standards and Single Event Noise Standard. Additionally, policies contained under Goal N-3, Objective N-3 relate to noise abatement of aircraft noise. Policy (a) requires the City to coordinate efforts to reduce noise impacts with appropriate public and government agencies, such as aircraft and transit regulatory agencies. Policy (e) seeks the cooperation of aircraft regulatory agencies in the modification and selection of flight paths that will reduce noise impacts on residential and other noise-sensitive areas. Policy (f) ensures any proposal to update aircraft noise contours used by the City of Irvine for planning analysis is submitted, before adoption by the City, to the ALUC. Therefore, adherence with the noise requirements of the ALUCP (PPP NOI-2), the Noise Element Update policies, and associated FAA requirements would ensure that future development would not expose people to excessive aircraft noise levels, and impacts would be less than significant.

4.10.7.2 Significance of Impacts

Adherence with the noise requirements of the ALUCP, the Noise Element Update policies, and associated FAA requirements would ensure that future development would not expose people to excessive aircraft noise levels, and impacts would be less than significant.

4.10.7.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.10.7.4 Significance of Impacts after Mitigation

Impacts would be less than significant. No mitigation is required.

4.10.8 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for noise. The analysis of vehicle traffic noise provided above is cumulative in nature because the analysis considers noise impacts associated with buildout of the entirety of the City and the traffic assumptions used in the analysis include cumulative traffic associated with regional growth. Cumulatively, there would be additional new future development and associated travel demand within the City and in the surrounding region. The residences and other sensitive land uses located along most of the City roadways are currently affected by the existing traffic noise, and cumulative growth would result in a significant increase in ambient noise and would potentially result in noise levels that exceed the City's compatibility

standards. As outlined in the Irvine General Plan Update Traffic Noise Assessment, cumulative off-site traffic noise level impacts are expected to exceed noise level increase thresholds along 147 segments. Based on the significance criteria for off-site traffic noise, land uses adjacent to these study area roadway segments would experience a significant cumulative noise level increases due to the Project-related traffic as compared to the existing traffic noise levels. Therefore, impacts associated with increases in ambient traffic noise would be cumulatively considerable and would remain significant and unavoidable.

Stationary source of noise, construction noise, and vibration are generally localized impacts that do not have regional or cumulative considerations. Noise sources associated with past, present, and future development in the region include construction equipment, landscape and building maintenance activities, mechanical equipment, solid waste collection, parking lots, commercial, office, and industrial activities, and residential, school, and recreation activities and events. However, construction vibration would be cumulatively considerable and would remain significant and unavoidable.

4.11 Population and Housing

This section analyzes potentially significant impacts related to population and housing that could result from implementation of the project.

4.11.1 Existing Conditions

As the city of Irvine (City) continues to expand, there is a rising demand for housing to meet the needs of its growing population. The City's appeal as a residential destination stems from its prime location in Orange County, close proximity to employment opportunities, renowned school district, and exceptional safety record. The City's residential areas are organized into distinct villages, each with its unique density, character, and amenities. While initially focused on low-density, single-family homes, Irvine's housing landscape now includes a variety of property types.

4.11.1.1 Population, Housing, and Employment Trends

The Southern California Association of Governments (SCAG) is the metropolitan planning organization responsible for developing and adopting regional housing, population, and employment growth forecasts for local governments from Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is required to update these forecasts every four years. To facilitate regional planning efforts, SCAG's planning area is further organized into 14 subregions. The City is in the Orange County Council of Governments (OCCOG) subregion.

The regional and City population and housing trends outlined in SCAG's technical documents are discussed further below. However, it is important to note that the growth forecasts included in SCAG's technical documents are originally sourced from Orange County Projections (OCP), the official growth forecast for Orange County (all jurisdictions and the unincorporated County of Orange). OCP is developed by the Center for Demographic Research at California State University, Fullerton and is adopted by the OCCOG Board of Directors. Once OCP is adopted by the OCCOG, it is provided to subregional and regional agencies, including SCAG. OCP includes growth forecast data provided from and verified by the City.

a. Population

Per the 6th Cycle Housing Element Update effective 2021 to 2029 (2021-2029 Housing Element), the City's population has grown by 3 percent per year on an annual basis, while the SCAG region has experienced a growth rate of 0.7 percent per year. The City has experienced higher and more consistent growth rates compared to neighboring cities. Most of the City's population growth stems from the development of planning areas, which are primarily residential, including the Northern Sphere Planning Areas, the Great Park Neighborhoods, and the Irvine Business Complex.

Table 4.11-1 presents population growth forecast for the City in comparison to Orange County based on the 2020 Connect SoCal Demographic and Growth Forecast Technical Study (SCAG 2020). As shown in Table 4.11-1, the population of the City was projected to increase from 261,600 in 2016 to

327,700 in 2045, which would constitute a 25 percent increase during that 29-year time frame. The population within the County was projected to increase from 3,180,000 in 2016 to 3,535,000 in 2045, which would constitute an 11 percent increase during that 29-year time frame. In comparison, the City is projected to experience a higher amount of population growth compared to the County.

Table 4.11-1
Regional and Local Population Growth

	City			Orange County		
Year	Total Population	Population Increase	Percent Change[1]	Total Population	Population Increase	Percent Change[1]
2016	261,600	--	--	3,180,000	--	--
2045	327,700	66,100	25%	3,535,000	355,000	11%

SOURCE: 2020 Connect SoCal Demographics and Growth Technical Study (SCAG 2020).
[1]Change from 2016-2045.

In 2022, OCP was updated to reflect 2020 Census data. According to OCP 2022, the population of the City is projected to increase from 307,096 in 2020 to 334,107 in 2050.

b. Housing

According to the 2021-2029 Housing Element, approximately 39 percent of existing homes in the City are single-family detached homes, 44 percent are multi-family condominiums or apartments, 16 percent are single-family attached homes/townhomes, and 1 percent are mobile homes. Development trends indicate that significantly more multi-family units have been built in recent years as compared to single-family units. While single-family units have increased by 75 percent between 2000 and 2020, multi-family units have increased by 158 percent during this same period.

Table 4.11-2 presents housing growth forecast for the City in comparison to the County of Orange based on the SCAG 2020 Connect SoCal Demographics and Growth Technical Study. As shown in Table 4.11-2, the number of households within the City is projected to increase from 93,300 in 2016 to 121,700 in 2045, which would constitute a 30 percent increase during that 29-year time frame. The number of households within the County is projected to increase from 1,025,000 in 2016 to 1,154,000 in 2045, which would constitute a 13 percent increase during that 29-year time frame. In comparison, the City is projected to experience a greater amount of housing growth compared to the County.

Table 4.11-2
Regional and Local Housing Growth

	City			Orange County		
Year	Total Households	Household Increase	Percent Change[1]	Total Households	Household Increase	Percent Change[1]
2016	93,300	--	--	1,025,000	--	--
2045	121,700	28,400	30%	1,154,000	129,000	13%

SOURCE: 2020 Connect SoCal Demographics and Growth Technical Study (SCAG 2020).
[1]Change from 2016-2045.

In 2022, OCP was updated to reflect 2020 Census data. OCP also utilizes housing unit in the growth forecast as compared to household in the SCAG Connect SoCal document. According to OCP 2022, the total number of housing units in the City is projected to increase from 117,544 in 2020 to 142,979 in 2050. This updated forecast reflects the more aggressive production of housing units that occurred between 2016 and 2020.

c. Employment

According to the 2021-2029 Housing Element, the City is a major job center in Orange County. Numerous corporations have national or international headquarters in the City, and companies of all types have a robust presence. In addition, the City is home to highly ranked and well-regarded educational institutions, including the University of California, Irvine; Concordia University; Irvine Valley College; University of Southern California (Orange County Center); and campuses of University of La Verne and Pepperdine University.

Table 4.11-3 presents employment growth forecast for the City in comparison to the County based on the 2020 Connect SoCal Demographic and Growth Forecast Technical Study (SCAG, 2020). As shown in Table 4.11-3, the number of jobs within the City is projected to increase from 265,300 in 2016 to 330,200 in 2045, which would constitute a 24 percent increase during that 29-year time frame. The number of jobs within the County is projected to increase from 1,710,000 in 2016 to 1,980,000 in 2045, which would constitute a 16 percent increase during that 29-year time frame. In comparison, the City is projected to experience a higher amount of job growth compared to the County.

Table 4.11-3
Regional and Local Employment

	City			Orange County		
Year	Total Jobs	Jobs Increase	Percent Change[1]	Total Jobs	Jobs Increase	Percent Change[1]
2016	265,300	--	--	1,710,000	--	--
2045	330,200	64,900	24%	1,980,000	270,000	16%

SOURCE: 2020 Connect SoCal Demographics and Growth Technical Study (SCAG 2020).
[1]Change from 2016-2045.

4.11.2 Applicable Regulatory Framework

4.11.2.1 Federal Regulations

a. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 United States Code Section 4601)

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 United States Code [USC] 4601 et seq.) (Uniform Act), provides important protections and assistance for people affected by federally funded projects in accordance with the following objectives:

(a) To ensure that owners of real property to be acquired for federal and federally-assisted projects are treated fairly and consistently, to encourage and expedite acquisition by agreements with such owners, to minimize litigation and relieve congestion in the courts, and to promote public confidence in federal and federally-assisted land acquisition programs;

(b) To ensure that persons displaced as a direct result of federal or federally-assisted projects are treated fairly, consistently, and equitably so that such displaced persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole; and

(c) To ensure that agencies implement these regulations in a manner that is efficient and cost effective.

4.11.2.2 State Regulations

a. Senate Bill 375

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act, was approved in 2008. SB 375 provides incentives for cities and developers to bring housing and jobs closer together and to improve public transit. The goal is to reduce the number and length of automobile commuting trips, helping to meet the statewide targets for reducing greenhouse gas emissions set by Assembly Bill (AB) 32 (see Section 4.6 above). As a part of this effort, SB 375 requires that regional housing needs be addressed in conjunction with regional transportation to integrate housing, land use, and transportation planning together. SB 375 also requires the Regional Housing Needs Allocation (RHNA) be completed every eight years and, if a jurisdiction does not meet this requirement, penalties may be incurred in accordance with SB 375 and AB 1233.

b. Senate Bill 35

SB 35, or the Affordable Housing Streamlined Approval Process, was passed in 2017. It creates an opt-in program for developers that allows a streamlined ministerial process (i.e., not subject to a discretionary review, and therefore California Environmental Quality Act [CEQA] exempt) for developments in localities that have not yet made sufficient progress toward meeting their RHNA. Eligible developments must include a specified level of affordability; be located on an infill site; and comply with existing residential and mixed-use general plan or zoning provisions.

c. Senate Bill 330

The "Housing Crisis Act" was passed in 2019 and was supplemented by AB 8 in 2021. It allows a housing developer to submit a "preliminary application" to a local agency for a housing development project. Submittal of a preliminary application allows a developer to provide a specific subset of information on the proposed housing development before providing the full amount of information required by the local government for a housing development application. Upon submittal of a preliminary application and payment of a permit processing fee, a housing developer is allowed to "freeze" the applicable fees and development standards that apply to a project while the rest of the

material necessary for a full application submittal is assembled. After an application is deemed complete, local agencies cannot "disapprove" an eligible housing development project or condition its approval at a "lower density," as defined in Government Code Section 65589.5(g), if the project is consistent with objective standards. SB 330 also places additional limitations on an "affected" agency's ability to limit development, and requires the California Department of Housing and Community Development (HCD) to develop a list of "affected cities" and census designated places within the unincorporated county ("affected counties") that are prohibited from taking certain zoning-related actions, including, but not limited to the following:

- Downzoning or actions resulting in lesser intensification,
- Imposing a moratorium on development, and/or
- Imposing design standards that are not objective.

The law also requires jurisdiction-wide housing replacement when affordable housing to lower-income residents is demolished. The majority of these provisions sunset, or expire, on January 1, 2030, unless extended by the legislature and governor.

d. Senate Bill 6

The "Middle Crisis Housing Act" was passed in 2022. It allows residential development on property zoned for retail and office space without the need to rezone the site and allows project applicants to invoke the Housing Accountability Act (1982) to limit local discretion to deny or implement a conditional approval. SB 6 does not provide a ministerial approval pathway and requires applicants to commit to both prevailing wage and more costly "skilled and trained workforce" requirements for project labor. SB 6 does not contain any affordability requirements.

e. Assembly Bill 2011 (AB 2011)

The "Housing and High Roads Job Act" was passed in 2022 and sunsets in 2033. It creates a ministerial, CEQA-exempt, time-limited approval process for multi-family housing developments on commercially zoned property. Projects must pay prevailing wages to construction workers and meet specified Below Market Rate (BMR) affordable housing targets. The legislation provides two distinct options: one for 100 percent BMR projects and a second for mixed-income (typically 15 percent BMR) projects located specifically on "commercial corridors." Eligibility is further limited by numerous site and project criteria requiring careful review. The streamlined review process relies on Objective Design Standards.

4.11.2.3 Local Regulations

a. Connect SoCal

On September 3, 2020, SCAG's Regional Council unanimously voted to approve and adopt Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy). Connect SoCal is a regional planning document that SCAG is required to update every four years per federal and state law. Additionally, because most areas within the SCAG region have been designated as

nonattainment or maintenance areas for one or more transportation related criteria pollutants under the federal Clean Air Act, Connect SoCal must conform to the applicable State Implementation Plan.

It should be noted that SCAG is currently in the process of updating this document and recently released the draft Connect SoCal 2024 for review and comment. The final Connect SoCal 2024 document is expected to go to the Regional Council for adoption in April 2024.

b. Regional Housing Needs Assessment

To respond to state population and household growth, and to ensure the availability of decent affordable housing for all income groups, the state enacted a law that requires SCAG and other councils of governments to periodically distribute the state identified housing need for their regions. Local jurisdictions are required by state law (Government Code Section 65580 et seq.) to plan for their fair share of projected housing construction needs in their region over a specified planning period. Housing unit construction goals are set by the state HCD and allocated to cities through regional planning agencies. HCD is responsible for determining this regional need, initiating the process by which each region must then distribute their share of statewide need to all jurisdictions within its region. Future regional housing needs are calculated in terms of the following three factors:

1. The number of units needed to accommodate forecast population growth;
2. The number of units needed to replace demolition due to attrition in the housing stock (i.e., fire damage, obsolescence, redevelopment, and conversion to non-housing uses); and
3. Maintenance of an ideal vacancy rate for a well-functioning housing market (i.e., vacancy allowance).

After a RHNA determination has been made, a regional RHNA Plan must be developed. State Housing Element law (Government Code Section 65584 (d)) states that the RHNA Plan shall be consistent with four objectives:

1. Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in all jurisdictions receiving an allocation of units for low- and very low-income households.
2. Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region's greenhouse gas reductions targets provided by the state Air Resources Board pursuant to Section 65080.
3. Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.
4. Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.

SCAG has developed a RHNA Plan to address the housing needs of the southern California region. Future housing need is assessed by each city or county jurisdiction. The RHNA Plan is based on the land use pattern in the 2020 Regional Transportation Plan and Sustainable Communities Strategy and the 2020 Regional Growth Forecast, in accordance with SB 375. This recent legislation, SB 375, as well as SB 575, affects the RHNA allocation process. The City's RHNA allocation for the 2021-2029 Housing Element is a total of 23,610 units, allocated by income level categories as follows:

- Extremely Low/Very Low Income: 6,396 units (27.1 percent of total)
- Low Income: 4,235 units (17.9 percent of total)
- Moderate Income: 4,308 units (18.2 percent of total)
- Above-Moderate Income: 8,671 units (36.7 percent of total)

c. 2021-2029 Housing Element

California State Housing Element Law (California Government Code Article 10.6) establishes the requirements for the Housing Element of the General Plan. Specifically, Government Code Section 65588 requires that local governments review and revise the Housing Element of their comprehensive General Plans not less than once every eight years. The City Council adopted the amended 2021-2029 Housing Element on May 10, 2022, and the HCD certified the 2021-2029 Housing Element on May 24, 2022.

The Housing Element, as part of the City's General Plan, establishes housing-related actionable programs intended to guide land-use planning and development activities for the 2021-2029 Housing Element planning period in accordance with the City's stated housing goals and state law. The 2021-2029 Housing Element includes strategies for maintenance of existing housing and action-oriented programs to increase the capacity for additional housing options within the local housing supply, as necessary, to meet the current and future needs of people living and working in the City.

The following eight major goals were identified by the City that are addressed by the Housing Plan in the 2021-2029 Housing Element:

- Provide for safe and decent housing for all economic segments of the community,
- Maximize land utilization for residential development,
- Preserve existing affordable housing,
- Encourage more affordable housing units,
- Maximize solutions for those experiencing or at risk of homelessness,
- Encourage and preserve homeownership,
- Improve quality of life and promote placemaking, and
- Affirmatively furthering fair housing.

d. Affordable Housing Strategy and Implementation Plan (2015)

The Affordable Housing Strategy Report and Implementation Plan reviews past accomplishments and presents new affordable housing opportunities and assists the City in identifying the process for implementing affordable housing.

e. Zoning Ordinance

Inclusionary Housing Ordinance

The City's Inclusionary Housing Ordinance program, adopted in 2003, requires that 15 percent of all new units be affordable. The affordable housing implementation procedure is a means for fulfilling the affordable housing requirements for certain developments or planning areas, as set forth in the General Plan 2021-2029 Housing Element. The implementation procedure describes the requirements for submitting the affordable housing plan to the City and to ensure that General Plan requirements are met.

f. Existing Plans, Programs, and Policies

There are no standard conditions applicable to population and housing. The following measures are existing plans, programs, or policies (PPP) that apply to the project and will help to reduce and avoid potential impacts related to population and housing. The City's Inclusionary Housing Ordinance (Affordable Housing Implementation Procedure), as contained in Chapter 2-3 of the Zoning Ordinance, should be considered in the analysis of a proposed project that consists of 50 residential units or more, as it requires a minimum of 15 percent of the total units that are constructed to be affordable units. The breakdown of income categories for the 15 percent, along with other requirements and guidelines, are outlined in detail in Chapter 2-3 of the Zoning Ordinance.

In addition, the adopted 2021-2029 Housing Element includes the following objective and policy related to the discussion of population and housing.

Goal 1: Provide for safe and decent housing for all economic segments of the community.

Objective A. Update the Land Use Element and Zoning Ordinance to achieve compliance with current State laws and to facilitate the development of diverse housing options.

- Policy HE-A.3: Ensure appropriate land use planning and developer mitigation/improvements are provided for adequate infrastructure, services, and facilities to serve existing and future residents.

Goal 5: Maximize solutions for those experiencing or at risk of homelessness.

Objective J. Increase tenant protections.

- Policy HE-J.1: Work with local nonprofit organizations to identify people experiencing or at risk of homelessness in vulnerable subpopulations in the City to navigate specialized services.

- Policy HE-J.2: Evaluate opportunities to leverage local, State, and Federal funding, as available, to maintain and continue rental assistance and financial assistance programs that were created to keep individuals housed and prevent homelessness during and following the COVID-19 pandemic

- **Proposed Program PP-J.2**: Displacement Prevention. Connect residents to resources to minimize the displacement of households with lower incomes and special needs whenever possible and where necessary to ensure that displacement is carried out in an equitable manner.

Proposed General Plan Strategies and Policies

There are no proposed goals, objectives, policies, and implementation actions that are applicable to the analysis of population and housing outside of what exists in the City's adopted General Plan, including the approved 2021-2029 Housing Element.

4.11.3 Significance Determination Thresholds

The City has adopted Appendix G of the State CEQA Guidelines as the significance thresholds. A significant impact related to population and housing would be significant if the project would:

1) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
2) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

4.11.4 Methodology

Potential impacts associated with population and housing were evaluated through a comparison of project buildout with data derived from the SCAG Connect SoCal 2020 Demographics and Growth Technical Study and the 2021-2029 Housing Element (City of Irvine 2022).

4.11.5 Topic 1: Population Growth

Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

4.11.5.1 Impact Analysis

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Approval of the project would serve as an important action towards implementing the City's 2021-2029 Housing Element and the associated RHNA allocation of 23,610 units. Because the housing assessment in the RHNA is determined by SCAG, future development under the project would accommodate increases in population based on SCAG's demographic projections. Therefore, the project would accommodate planned growth projected by SCAG. As described in Section 4.11.1.1

above, the City's population is projected to increase from 261,600 in 2016 to 327,700 in 2045, which would constitute an 25 percent increase in population during this 29-year time frame. Similarly, the City's housing is projected to increase from 93,300 in 2016 to 121,700 in 2045, which would constitute a 30 percent increase during that 29-year time frame. Therefore, future housing developed under the project would provide housing necessary to meet the City's RHNA allocation of 23,610 units, as well as accommodate future population growth and housing needs projected in SCAG's growth projections. Furthermore, the project would reduce the City's existing jobs/housing imbalance. The City currently has more jobs than can be sustained by the City's own population. Many of the jobs are in relatively high-paying professions, and employees are more likely and able to afford to make longer distance commutes from less dense residential areas within the City, as well as residential areas outside the City. Implementing the City's 2021-2029 Housing Element and the associated RHNA allocation would account for planned population growth, would increase housing within the City, and improve the City's jobs/housing balance.

Future development under the project would primarily be in developed areas that are already served by infrastructure. Given these conditions and the City's existing development and housing occupancy patterns, it is not anticipated that future housing development facilitated by the project would induce unplanned population growth directly or indirectly through extension of roads or other infrastructure or otherwise. Additionally, the 2021-2029 Housing Element includes Goal 1, Objective A and Policy HE-A.3, which aim to manage future growth within the City by updating the land use element and Zoning Ordinance to comply with State law and by ensuring appropriate land use planning to provide adequate infrastructure, services, and facilities to serve residents.

4.11.5.2 Significance of Impacts

The project would implement the vision of the 2021-2029 Housing Element, and future development under the project would not induce substantial unplanned population growth in an area, either directly or indirectly, and impacts would be less than significant.

4.11.5.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.11.6 Topic 2: Displacement of People or Housing

Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

4.11.6.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

The purpose of the project is to provide orderly growth in the City through the distribution, location, balance, and mix of land uses. The project would not change existing land use designations within

each of the three focus areas (and on select sites located outside of the focus areas), but rather would adopt a residential and mixed use overlay that would allow for residential and mixed-use projects to be developed within these areas. In accordance with these overlays, buildout of the project would increase the amount of housing within the City. Although some people may be displaced by a future site-specific redevelopment project, buildout of the project would provide an overall expansion of housing opportunities, and would be required to comply with all laws and regulations related to the displacement of tenants including Government Code §§ 66300 et seq. Furthermore, the project would exceed the state RHNA allocations assigned to the City, providing a buffer in all income categories. This exceedance of the City's RHNA allocation would provide additional housing that would accommodate residents displaced by future redevelopment projects, ensuring no net loss of housing, and that displaced residents would be able to find replacement housing. Therefore, displacement of people associated with implementation of the project would be temporary. In addition, the City's Inclusionary Housing Ordinance, as contained in Chapter 2-3 of the Zoning Ordinance, would be considered in the analysis of a future site-specific development that consists of 50 residential units or more to ensure adequate and accessible affordable housing. The Inclusionary Housing Ordinance requires a minimum of 15 percent of the total units that are constructed to be affordable units, providing an expansion of housing opportunities.

The project would also implement the policies of the 2021-2029 Housing Element related to displacement, including Policies HE-J.1, HE-J.2 and Proposed Program PP-J.2, which connects residents to resources to minimize the displacement of households with lower incomes and special needs.

4.11.6.2 Significance of Impacts

Through the overall production of more housing and compliance with applicable laws related to the displacement of tenants, the project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and impacts would be less than significant.

4.11.6.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.11.7 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for population and housing. The study area considered for the population and housing cumulative impact analysis is defined as the SCAG region and is inclusive of a proportionate share of RHNA housing units from adjacent jurisdictions. Buildout of the project would respond to the City's allocation under RHNA and would accommodate the projected population growth in the region, consistent with adopted plans and regional growth principles. The purpose of this section is to evaluate any additional incremental impact that the proposed project is likely to cause over and above the combined impacts of recently already approved and proposed projects in the City and its sphere. At buildout, a total of 57,656 residential

units are projected for the City. The project implements the 2021-2029 Housing Element and provides jobs near existing and planned employment concentrations. For these reasons, the cumulative population and housing impact is beneficial and is not a significant cumulative impact. The proposed project increases the cumulative total of housing units and associated population approved in the City. In doing so, the project would provide benefits for the City by meeting existing and projected housing demand, regional housing goals that promote housing production in jobs-rich areas, regional growth policies that encourage housing production in the Focus Areas, City 2021-2029 Housing Element goals regarding workforce housing, and state-mandated fair share housing programs. Therefore, the project would not contribute to a cumulative significant impact related to population and housing.

Although some people may be displaced by a future site-specific redevelopment project, buildout of the Reduced Alternative would provide an overall expansion of housing opportunities, and would be required comply with all laws and regulations related to the displacement of tenants including Government Code §§ 66300 et seq. Furthermore, the Reduced Alternative would exceed the state RHNA allocations assigned to the City, providing a buffer in all income categories. This exceedance of the City's RHNA allocation would provide additional housing that would accommodate residents displaced by future redevelopment projects, ensuring no net loss of housing, and that displaced residents would be able to find replacement housing. Therefore, displacement of people associated with implementation of the Reduced Alternative would be temporary. Additionally, the City's Inclusionary Housing Ordinance, as contained in Chapter 2-3 of the Zoning Ordinance, would be considered in the analysis of a future site-specific development that consists of 50 residential units or more to ensure adequate and accessible affordable housing. The Inclusionary Housing Ordinance requires a minimum of 15 percent of the total units that are constructed to be affordable units, providing an expansion of housing opportunities. Therefore, impacts associated with population and housing would be less than significant, and less than the project.

4.12 Public Services and Recreation

This section analyzes potentially significant impacts related to public services and recreation that could result from implementation of the project.

4.12.1 Existing Conditions

In Irvine, public services are delivered by a combination of state and local public agencies, as well as quasi-public entities and private utility companies. These services encompass a broad spectrum, including public safety, education, and more. Alongside these services, the City of Irvine places significant emphasis on ensuring the availability of essential public facilities distributed across the City.

4.12.1.1 Fire and Emergency Service

a. Service and Response

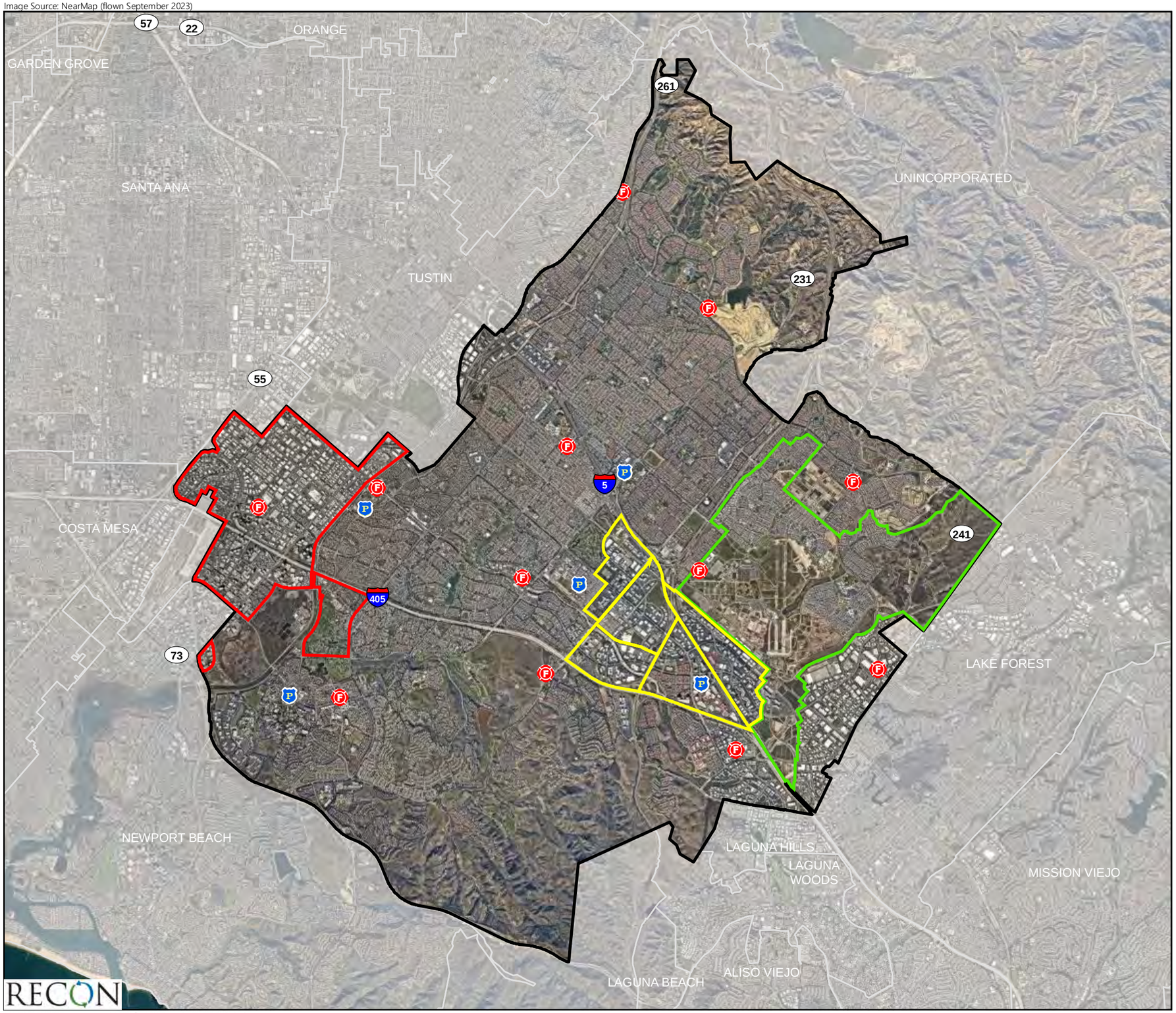
Fire protection in the City is provided by the Orange County Fire Authority (OCFA). Most of the City is served by Division 2 of the OCFA, but other portions of the City are served by Divisions 4 and 5 as well. The OCFA serves the unincorporated portions of the county and some cities within the County with which they have service agreements. Table 4.12-1 presents the OCFA fire stations that serve the City and their locations. Figure 4.12-1 presents the locations of these fire stations.

Table 4.12-1
OCFA Fire Stations that Serve the City

Station	Location
Station 4	2 California Avenue
Station 6	3180 Barranca Parkway
Station 20	7050 Corsair
Station 26	4691 Walnut Avenue
Station 27	12400 Portola Springs Road
Station 28	17862 Gillette Avenue
Station 36	301 East Yale Loop
Station 38	26 Parker
Station 47	47 Fossil Road
Station 51	18 Cushing
Station 55	4955 Portola Parkway

SOURCE: OCFA 2024a.
All stations are in OCFA Division 2.

Image Source: NearMap (flown September 2023)



Irvine City Boundary
Focus Area 1
Focus Area 2
Focus Area 3
Fire Station
Police Station

0 Miles 1.5

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FIGURE 4.12-1
Police and Fire Stations

The OCFA has guidelines for the provision of services when an emergency call is received until the first unit is on scene:

- First-in engines should arrive on-scene to medical aids and/or fires within 5 minutes, 80 percent of the time.
- First-in truck companies should arrive on-scene to fires within 12 minutes, 80 percent of the time.
- First-in paramedic companies should arrive on-scene at all medical aids within 10 minutes, 90 percent of the time.
- Response times tie in with workload. A unit should have less than 3,500 responses per year to be a reliable asset to meet the response time guidelines.

From the time a call is received to arrival in an urban area within the OCFA service area is within eight minutes 45 seconds, 90 percent of the time. In rural areas, it is within 16 minutes 45 seconds, 90 percent of the time. In the wilderness area, it is within 14 minutes 19 seconds, 90 percent of the time. Overall, received-to-arrival time for all incidents is within eight minutes 46 seconds, 90 percent of the time.

It is important to note that the City is currently negotiating with OCFA regarding an amended contract for fire services or a potential cessation of the current contract to allow the City to operate its own fire authority. Details regarding this negotiation are ongoing and have not yet been finalized.

4.12.1.2 Police Service

a. Service and Staffing

The City of Irvine Police Department (IPD) operates out of the main headquarters at 1 Civic Centre Plaza. Table 4.12-2 describes the three geographic units that are served by IPD, as well as the neighborhoods within each geographic unit. Figure 4.12-1 presents the locations of the IPD police stations that serve the City.

Table 4.12-2
Irvine Police Department Stations

Unit	Neighborhoods
Portola	This area encompasses 14 residential communities, including Cypress Village, Lower Peter's Canyon, North Park, North Park Square, Northwood, Northwood Point, Orange County Great Park, Orchard Hills, Portola Springs, Racquet Club, Stonegate, West Irvine, Woodbury, and Woodbury East. This area also includes 13 Irvine and Tustin Unified School District campuses and several private schools and pre-schools.
Crossroads	This area encompasses 22 residential communities, including College Park, Deerfield, El Camino Glen, Greentree, Harvard Square, Heritage Park, Los Olivos, Oak Creek, Old Towne, Orange Tree, Quail Hill, Shady Canyon, Smoketree, The Colony, The Meadows, The Ranch, The Spectrum, The Willows, Walnut Square, Westpark, Windwood, and Woodbridge. This area also includes 18 Irvine Unified School District campuses and several private schools and pre-schools.

Table 4.12-2 Irvine Police Department Stations	
Unit	Neighborhoods
University	This area encompasses 9 residential communities, including Rancho San Joaquin, Turtle Ridge, Turtle Rock, University Park, University Town Center, West Park Village I, Bommer Canyon Open Space Preserve, Orchard Hills Open Space Preserve, and Quail Hill Open Space Preserve. This area also includes 11 Irvine Unified School District campuses, University of California, Irvine, and several private schools and pre-schools.
SOURCE: City or Irvine 2024a.	

4.12.1.3 Schools

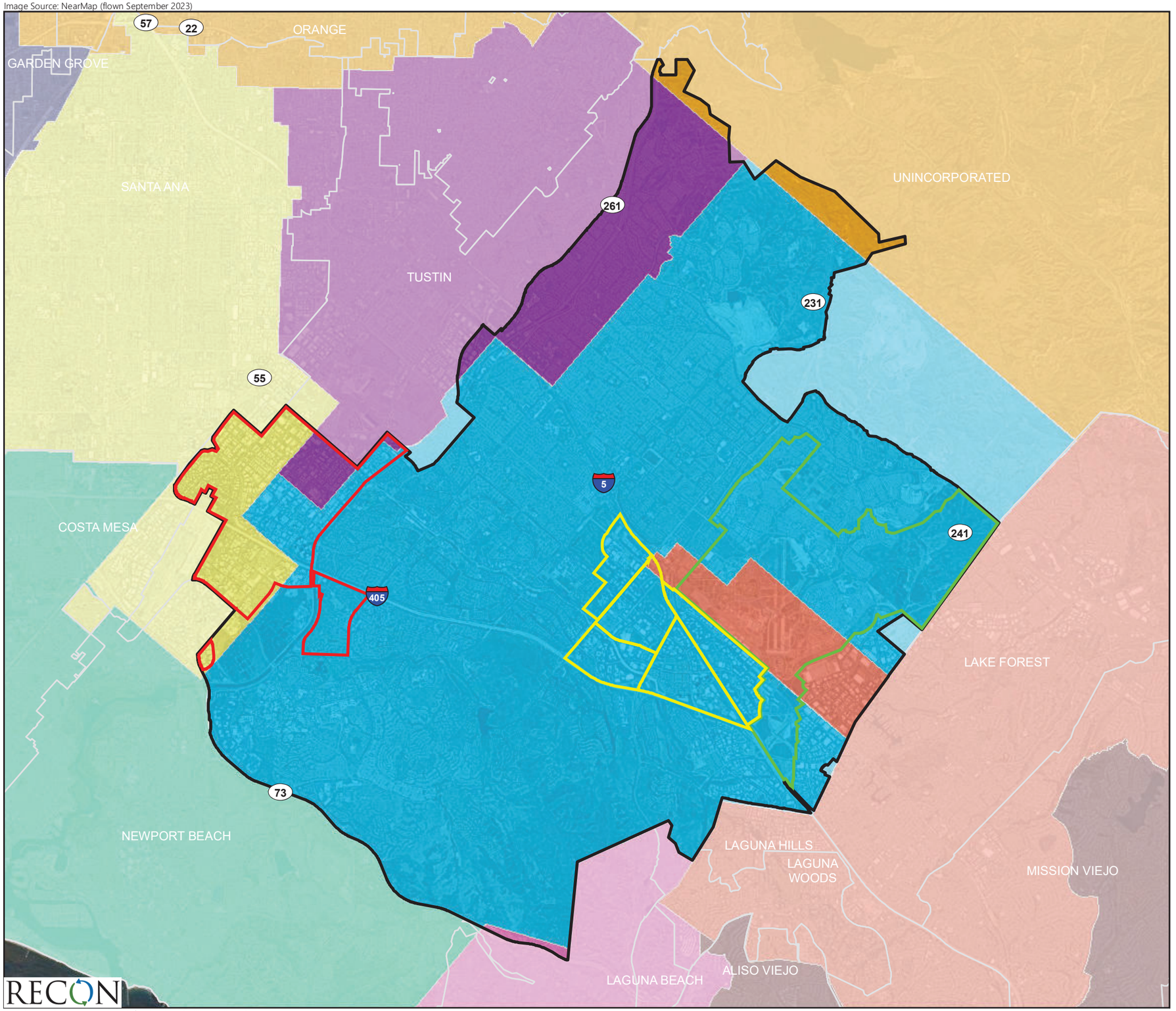
The City is located within the attendance boundaries of four school districts: Irvine Unified School District (IUSD), Tustin Unified School District (TUSD), Saddleback Valley Unified School District (SVUSD), and Santa Ana Unified School District (SAUSD). Figure 4.12-2 presents the jurisdictional boundaries of these four school districts in relation to the City.

a. Irvine Unified School District

The IUSD provides service to students in grades preschool through 12 residing within Irvine, Tustin, and a portion of the unincorporated County of Orange. IUSD schools includes one early childhood learning center, twenty four elementary schools, five kindergarten through eighth-grade schools, six middle schools, five high schools, one alternative high school, and two virtual academies (for both middle and high school students) (Irvine Unified School District 2024a).

Table 4.12-3a presents student enrollment at all IUSD schools in the 2022-2023 school year (the most current year for which student enrollment data is available) for reference. However, Table 4.12-3b presents school capacity and student enrollment data from 2021-2022 (the most current year for which student capacity data is available). Based on the total enrollment of 36,159 students during 2021-2022, IUSD schools district-wide currently have excess capacity. This excess capacity is due to projects that the school district has funded through special tax bonds.

Image Source: NearMap (flown September 2023)



- Irvine City Boundary
- Focus Area 1
- Focus Area 2
- Focus Area 3

School District

- Capistrano Unified
- Garden Grove Unified
- Irvine Unified
- Laguna Beach Unified
- Newport-Mesa Unified
- Orange Unified
- Saddleback Valley Unified
- Santa Ana Unified
- Tustin Unified

0 Miles 1.5

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FIGURE 4.12-2
School Districts

Table 4.12-3a Irvine Unified School District Enrollment			
School Name	School Type	Enrollment (2021-2022)	Enrollment (2022-2023)
Alternative Education-San Joaquin High	Alternative	716	182
Irvine Unified School District Virtual Academy (Middle and High School)	Virtual	1,153	188
Total Alternative Enrollment		**1,869**	**370**
Creekside High	Continuation	109	82
Total Continuation Enrollment		**109**	**82**
Alderwood Elementary	Elementary	739	812
Beacon Park K-8	Elementary	938	1,035
Bonita Canyon Elementary	Elementary	393	404
Brywood Elementary	Elementary	499	560
Cadence Park K-8	Elementary	1,022	924
Canyon View Elementary	Elementary	613	734
College Park Elementary	Elementary	573	568
Culverdale Elementary	Elementary	560	575
Cypress Village Elementary	Elementary	1,004	1,056
Deerfield Elementary	Elementary	616	640
Eastshore Elementary	Elementary	527	534
Eastwood Elementary	Elementary	576	624
Greentree Elementary	Elementary	433	449
Loma Ridge Elementary	Elementary	551	676
Meadow Park Elementary	Elementary	550	602
Northwood Elementary	Elementary	471	516
Oak Creek Elementary	Elementary	853	894
Plaza Vista K-8	Elementary	795	795
Portola Springs Elementary	Elementary	843	887
Santiago Hills Elementary	Elementary	530	548
Solis Park Elementary	Elementary	0	426
Springbrook Elementary	Elementary	483	506
Stone Creek Elementary	Elementary	479	460
Stonegate Elementary	Elementary	874	1,011
Turtle Rock Elementary	Elementary	815	835
University Park Elementary	Elementary	495	496
Vista Verde Elementary	Elementary	759	801
Westpark Elementary	Elementary	809	825
Woodbury Elementary	Elementary	1,106	1,069
Total Elementary Enrollment		**18,906**	**20,262**
Jeffrey Trail Middle	Middle	989	1,077
Lakeside Middle	Middle	601	635
Rancho San Joaquin Middle	Middle	746	807
Sierra Vista Middle	Middle	1,097	1,126
South Lake Middle	Middle	625	601
Venado Middle	Middle	554	583

Table 4.12-3a Irvine Unified School District Enrollment			
School Name	School Type	Enrollment (2021-2022)	Enrollment (2022-2023)
Total Intermediate Enrollment		**4,612**	**4,829**
Irvine High	High School	1,795	1,862
Northwood High	High School	2,200	2,251
Portola High	High School	2,097	2,293
University High	High School	2,097	2,164
Woodbridge High	High School	2,244	2,218
Total High School Enrollment		**10,433**	**10,788**
Early Childhood Learning Center	Preschool	0	32
Total Preschool Enrollment		**0**	**32**
Irvine Adult Transition Programs	Special Education Schools	0	99
Total Special Education Enrollment		**0**	**99**
TOTAL DISTRICT ENROLLMENT		**35,929**	**36,462**
SOURCES: Irvine Unified School District 2024b; California School Dashboard 2022.			

Table 4.12-3b Irvine Unified School District Existing School Facilities Capacity and Student Enrollment			
School Level	2022/2023 Facilities Capacity[1]	2022/2023 Student Enrollment[2]	Excess/(Shortage) Capacity
Elementary School (Grades K-6)	23,614	20,262	3,352
Middle School (Grades 7-8)	6,058	4,829	1,229
High School (Grades 9-12)	12,162	10,788	1,374
TOTAL	**41,834**	**35,879**	**5,955**
SOURCES: [1]Irvine Unified School District, Response to Notice of Preparation, Program Environmental Impact Report, Irvine 2045 Focused General Plan Update, August 18, 2023 (see Appendix A). [2]Irvine Unified School District 2024b. NOTE: Table reflects most recent figures related to existing school facilities capacity and student enrollment. Table 4.12-3a includes most up-to-date student enrollment figures.			

IUSD School Facilities and Funding

In March 2011, IUSD developed a 20-year Comprehensive Facilities Master Plan (FMP) which includes Site Master Plans for each school site. IUSD opened six new school sites from 2016 to 2022. In addition to the new school sites, IUSD scheduled improvements to existing school sites funded by Measure E, which is a bond that was passed in 2016 to provide a maximum issuance of $319 million for facilities improvements at 28 existing schools. Improvements included the creation of collaborative learning spaces and innovation labs; improved accessibility, comfort, and safety; and modernized existing classrooms, science labs, and other school facilities (Irvine Unified School District 2022a).

In addition to Measure E, school funding consists of a contribution of local funding through a Community Facilities District (CFD), State funding, and/or other forms of mitigation negotiated with developers. School Districts rely on School Fees as a funding source for new school facilities required by new development. State law requires a nexus between the projected number of units to be constructed and the amount of fees levied. Non-mitigated units are projected future units that have not had their impacts mitigated. Per the 2022 Fee Justification Study, of the 1,205 Future Units that have not mitigated their impacts on the School District, all 1,205 are expected to be Multifamily Attached units. IUSD analyzed data to provide a student generation rate for new development which establishes a nexus between projected non-mitigated units and fees levied. Table 4.12-4 present the IUSD student generation rate for elementary, middle, and high school students for non-mitigated multi-family attached dwellings. The 2022 Fee Justification Study shows that 468 students would be generated from non-mitigated dwelling units. By multiplying this number by school facilities cost impacts per residential unit, the report estimated a total unmitigated cost of $9,881,352. The report then establishes a cost per square foot for different uses, and these fees are levied on new development.

Table 4.12-4
Irvine Unified School District
Student Generation Rates for Multi-Family Attached

Non-mitigated Future Dwelling Units[1]	School Type	Student Generation Rate	Students Generated
1,205	Elementary	0.2082	251
1,205	Middle	0.0633	77
1,205	High	0.1168	141
TOTAL		**0.3883**	**468**

SOURCE: Irvine Unified School District 2022b.
[1]As estimated in the Residential and Commercial/Industrial Development School Fee Justification Study for IUSD 2022.

b. Tustin Unified School District

Tustin Unified School District operates two elementary schools, one K through 8 school, and one high school in the City, with a total of 5,524 students (Table 4.12-5a). Additionally, 15 elementary schools, four intermediate schools, and three high schools are operated by TUSD but are not within City limits (Foothill, Hillview, Tustin). TUSD also operates one online school and one magnet school. Table 4.12-5a presents student enrollment at TUSD schools within the City for 2022-2023 (the most current year for which student enrollment data is available). However, Table 4.12-5b compares school capacity and student enrollment data from 2021-2022 (the most current year for which student capacity data is available). Based on the total enrollment of 22,038 students during 2021-22, TUSD schools district-wide currently has insufficient facilities to adequately house its current enrollment at both elementary and high school levels.

It is important to note that while enrollment currently exceeds capacity, school districts typically assess capacity on a district-wide basis and then implement school- or site-specific measures to address interim capacity issues (e.g., portables or temporary classrooms) and long-term solutions (i.e., new or expanded schools) for longer-term capacity issues.

Table 4.12-5a Tustin Unified School District Enrollment			
School Name	School Type	Enrollment (2021-2022)	Enrollment (2022-2023)
Arnold O. Beckman High	High School	2,811	2,798
Hicks Canyon Elementary	Elementary	820	865
Myford Elementary	Elementary	480	488
Orchard Hills	K-8	1,351	1,373
Tustin Connect Online School	K-12	444	303
TOTAL		**5,906**	**5,827**
SOURCE: Tustin Unified School District 2024.			

Table 4.12-5b Tustin Unified School District Existing School Facilities Capacity			
School Level	2021/2022 Facilities Capacity	2021/2022 Student Enrollment	Excess Capacity Surplus
Elementary School (Grades K-5)	8,951	9,110	0
Middle School (Grades 6-8)	5,564	5,045	519
High School Grades 9-12)	7,763	7,883	0
TOTAL	**22,278**	**22,038**	**519**
SOURCE: Tustin Unified School District 2022. NOTE: Table reflects most recent figures related to existing school facilities capacity and student enrollment. Table 4.12-5a includes most up-to-date student enrollment figures.			

TUSD School Facilities and Funding

School Districts rely on School Fees as a funding source for new school facilities required by new development. State law requires a nexus between the projected number of units to be constructed and the amount of fees levied. Non-mitigated units are projected future units that have not had their impacts mitigated. Per the 2022 Fee Justification Study, of the 4,104 Future Units that have not mitigated their impacts on the School District, comprised of 1,958 Multifamily Attached units, 2,122 Single-Family Attached, and 24 Single Family Detached. TUSD analyzed data to provide a student generation rate for new development which establishes a nexus between projected non-mitigated units and fees levied. Tables 4.12-6a-c present the TUSD student generation rate for elementary, middle, and high school students for non-mitigated multi-family attached dwellings. The 2022 Fee Justification Study shows that 1,314 students would be generated from non-mitigated dwelling units. By multiplying this number by school facilities cost impacts per residential unit, the report estimated a total unmitigated cost of $29,821,230. The report then establishes a cost per square foot for different uses, and these fees are levied on new development.

Table 4.12-6a Tustin Unified School District Student Generation Rates for Multi-Family Attached			
Non-mitigated Future Dwelling Units[1]	School Type	Student Generation Rate (SFD)	Students Generated
1,958	Elementary	0.1341	263
1,958	Middle	0.0616	121
1,958	High	0.0886	174
TOTAL		**0.2843**	**558**
SOURCE: Tustin Unified School District 2022. [1]As estimated in the Residential and Commercial/Industrial Development School Fee Justification Study for TUSD 2022.			

Table 4.12-6b Tustin Unified School District Student Generation Rates for Single-Family Attached			
Non-mitigated Future Dwelling Units[1]	School Type	Student Generation Rate	Students Generated
2,122	Elementary	0.1449	307
2,122	Middle	0.0860	182
2,122	High	0.1195	254
TOTAL		**0.3503**	**743**
SOURCE: Tustin Unified School District 2022. [1]As estimated in the Residential and Commercial/Industrial Development School Fee Justification Study for TUSD 2022.			

Table 4.12-6c TUSD Student Generation Rates for Single-Family Detached			
Non-mitigated Future Dwelling Units[1]	School Type	Student Generation Rate	Students Generated
24	Elementary	0.2079	5
24	Middle	0.1173	3
24	High	0.1917	5
TOTAL		**0.5170**	**13**
SOURCE: Tustin Unified School District 2022. [1]As estimated in the Residential and Commercial/Industrial Development School Fee Justification Study for TUSD 2022.			

c. Santa Ana Unified School District

The Santa Ana Unified School District operates 33 elementary schools, eight intermediate schools, nine high schools, one dependent charter, one child development center, one virtual academy, a career technician education program, early childhood education programs, and deaf and hard of hearing regional programs (K through 6). Although none of these schools are within the City's

jurisdiction, residential development within the City may be incorporated into future school district boundaries. Table 4.12-7a presents student enrollment in Santa Ana Unified School District (the most current year for which student enrollment data is available). Table 4.12-7b presents existing school facilities capacity and student enrollment data from 2021-2022 (the most current year for which student capacity data is available). As illustrated by Table 4.12-7b, overall enrollment within the Santa Ana Unified School District is below the District's total capacity.

Table 4.12-7a
Santa Ana Unified School District
Enrollment

School Name	School Type	Enrollment (2021-2022)	Enrollment (2022-2023)
John Adams Elementary School	Elementary	369	387
George Washington Carver Elementary School (Grades K-5)	Elementary	441	412
Advanced Learning Academy (TK – 8)	Elementary	331	332
Wallace R. Davis Elementary School	Elementary	424	417
Diamond Elementary School	Elementary	437	396
Thomas A. Edison Elementary School	Elementary	395	359
Manuel Esqueda Elementary School	Elementary	947	892
Benjamin Franklin Elementary School	Elementary	624	346
John C. Fremont Elementary School	Elementary	403	402
James A. Garfield Elementary School	Elementary	567	509
Carl Harvey Elementary School	Elementary	353	323
Martin R. Heninger Elementary School	Elementary	996	900
Heroes Elementary School	Elementary	471	434
Andrew Jackson Elementary School	Elementary	566	545
Jefferson Elementary School	Elementary	607	609
John F. Kennedy Elementary School	Elementary	483	441
Martin Luther King Jr. Elementary School	Elementary	506	481
Abraham Lincoln Elementary School	Elementary	580	535
James Russell Lowell Elementary School	Elementary	529	476
James Madison Elementary School	Elementary	861	825
Glenn L. Martin Elementary School	Elementary	504	496
James Monroe Elementary School	Elementary	252	250
Monte Vista Elementary School	Elementary	410	392
John Muir Fundamental Elementary School	Elementary	722	688
Pio Pico Elementary School	Elementary	452	436
Roosevelt-Walker Elementary School	Elementary	461	753
Taft Elementary School	Elementary	439	429
Jim Thorpe Fundamental Elementary School	Elementary	858	825
Santiago Elementary School	Elementary	984	944
George Washington Elementary School	Elementary	589	559
Woodrow Wilson Elementary School	Elementary	461	452
Greenville Fundamental School	Elementary	937	907
Romero-Cruz Academy (K through 8)	Elementary	958	932
Total Elementary Enrollment		**18,917**	**18,084**
Gerald P. Carr Intermediate School	Intermediate	1,195	1,026
Julia C. Lathrop Technology Magnet Intermediate School	Intermediate	775	742
Douglas MacArthur Fundamental Intermediate School	Intermediate	1,180	1,145
McFadden Intermediate School	Intermediate	1,154	1,063
Gonzalo and Felicitas Mendez Fundamental Intermediate School	Intermediate	1,384	1,293

Table 4.12-7a Santa Ana Unified School District Enrollment			
School Name	School Type	Enrollment (2021-2022)	Enrollment (2022-2023)
Sierra Preparatory Academy	Intermediate	793	742
Raymond A. Villa Fundamental Intermediate School	Intermediate	1,214	1,082
Frances E. Willard Intermediate School	Intermediate	468	457
Total Intermediate Enrollment		**8,163**	**7,550**
Century High School	High	1,656	1,708
Cesar E. Chavez High School	High	291	229
Godinez Fundamental High School	High	2,206	2,026
Lorin Griset Academy	High	278	268
Middle College High School	High	364	405
Saddleback High School	High	1,625	1,597
Santa Ana High School	High	3,314	3,135
Segerstrom High School	High	2,523	2,489
Valley High School	High	2,251	2,197
Total High School Enrollment		**14,508**	**14,054**
Total District Enrollment		**41,588**	**39,688**
SOURCES: Santa Ana Unified School District 2024; California School Dashboard 2022.			

Table 4.12-7b Santa Ana Unified School District Existing School Facilities Capacity and Student Enrollment			
School Level	2021/2022 Facilities Capacity	2021/2022 Student Enrollment	Excess / (Shortage) Capacity
Elementary School Grades TK-6	29,276	20,476	8,800
Intermediate School Grades 7-8	8,691	6,604	2,087
High School Grades 9-12	17,900	14,706	3,194
TOTAL	**55,867**	**41,786**	**14,081**
SOURCE: Santa Ana Unified School District 2022. NOTE: Table reflects most recent figures related to existing school facilities capacity and student enrollment. Table 4.12-7a includes most up-to-date student enrollment figures.			

d. Saddleback Valley Unified School District

The Saddleback Valley Unified School District operates 23 elementary schools, four intermediate, four high schools, and four alternative schools. Although none of these schools are within the City's jurisdiction, residential development within the City may be incorporated into future school district boundaries. Table 4.12-8a presents student enrollment in Tustin Unified School District. As illustrated by Table 4.12-8b, overall enrollment within the Saddleback Valley Unified School District is below the District's total capacity.

Table 4.12-8a Saddleback Valley Unified School District Enrollment			
School Name	School Type	Enrollment (2021-2022)	Enrollment (2022-2023)
Cielo Vista Elementary School	Elementary	600	526
de Portola Elementary School	Elementary	537	595
Del Cerro Elementary School	Elementary	377	373
Del Lago Elementary School	Elementary	357	355
Foothill Ranch Elementary School	Elementary	2,171	1,056
Glen Yermo Elementary School	Elementary	1,046	303
La Madera Elementary School	Elementary	351	606
Lake Forest Elementary School	Elementary	624	679
Linda Vista Magnet Elementary School	Elementary	299	295
Lomarena Elementary School	Elementary	576	550
Melinda Heights Elementary School	Elementary	729	959
Montevideo Elementary School	Elementary	509	500
Olivewood Elementary School	Elementary	382	420
Portola Hills Elementary School	Elementary	686	742
Ralph A. Gates Elementary School	Elementary	944	940
Rancho Cañada Elementary School	Elementary	566	632
Robinson Elementary School	Elementary	463	500
San Joaquin Elementary School	Elementary	263	247
Santiago STEAM Magnet Elementary School	Elementary	506	506
Trabuco Elementary School	Elementary	81	88
Trabuco Mesa Elementary School	Elementary	686	654
Valencia Elementary School	Elementary	544	538
Total Elementary Enrollment		**13,297**	**12,064**
La Paz Intermediate School	Intermediate	734	706
Los Alisos Intermediate School	Intermediate	729	656
Rancho Santa Margarita Intermediate School	Intermediate	1,047	1,041
Serrano Intermediate School	Intermediate	1,012	977
Total Intermediate Enrollment		**3,552**	**3,380**
El Toro High School	High	2,171	2,031
Laguna Hills High School	High	1,437	1,434
Mission Viejo High School	High	1,804	1,646
Silverado High School	High	245	264
Trabuco Hills High School	High	2,676	2,579
Total High School Enrollment		**8,333**	**7,954**
Virtual Academy K-12	K-12	462	202
Total Virtual Enrollment		**462**	**202**
TOTAL DISTRICT ENROLLMENT		**25,614**	**23,600**
SOURCE: Saddleback Valley Unified School District 2024.			

Table 4.12-8b Saddleback Valley Unified School District Existing School Facilities Capacity and Student Enrollment			
School Level	2021/2022 Facilities Capacity	2021/2022 Student Enrollment	Excess / (Shortage) Capacity
Elementary School Grades TK-6	14,830	12,203	2,627
Intermediate School Grades 7-8	4,995	3,585	1,410
High School Grades 9-12	10,773	8,460	2,313
TOTAL	30,598	24,248	6,350
SOURCE: Saddleback Valley Unified School District 2022. NOTE: Table reflects most recent figures related to existing school facilities capacity and student enrollment. Table 4.12-8a includes most up-to-date student enrollment figures.			

e. University of California, Irvine

The University of California, Irvine (UCI), is a 1,474 acre public research university that is part of the University of California system located 50 miles south of Los Angeles and five miles inland from the Pacific Ocean. UCI developed the 2007 Long Range Development Plan (LDRP) (University of California, Irvine 2007), which serves as a comprehensive land use plan to guide physical development on the UCI campus through the 2025-2026 school year. The LRDP is based on potential enrollment projections of 37,000 students by 2025-2026. It enables an expansion of on-campus student housing from 17,637 beds to 22,000 beds, and expansion of on-campus faculty and staff housing from an existing program of 1,100 dwelling units to 1,830 dwelling units. UCI employs 27,216 staff and enrolls 36,680 students as of fall of 2022 (University of California, Irvine 2023-24).

f. Concordia University

Concordia University Irvine is a private Lutheran university with two locations in the City: the Turtle Rock campus located at 1530 Concordia West, and the newly purchased Spectrum Campus located at 16355 Laguna Canyon Road. The Turtle Rock Campus is the primary campus consisting of a 72-acre site. The Spectrum Campus is a three-story, 113,882 square foot building located in the Spectrum 4 Planning Area (Planning Area 13) and will house the university's Bachelor of Science in Nursing program. Concordia enrollment is 4,123 students and employs 90 full time faculty (Concordia University 2023).

g. Irvine Valley College

Irvine Valley College (IVC) is a two-year degree community college consisting of 60 acres of facilities located at 5500 Irvine Center Drive. IVC is part of the South Orange County Community College District (SOCCCD). The SOCCD 2020-2025 District-Wide Strategic Plan anticipated declines in enrollment, which reflect anticipated regional declines in K though 12 enrollments due to declining birth rates associated with the Great Recession. A total of 16,134 students were enrolled for the 2023-2024 school year (SOCCCD 2020).

4.12.1.4 Parks/Recreational Facilities

The City's public park system provides more than 400 public recreation facilities including community parks, neighborhood parks, and special use sites (Table 4.12-9). The City provides 22 community parks, more than 40 neighborhood parks, and 6,500 acres of preserved open space. .

The four categories of parks defined by the City are as follows:

- Community Parks are medium to large, multi-purpose parks ranging from 10 to 48 acres in size. They support a variety of recreation opportunities and provide specialized facilities. They support recreation programs, special events, and large-group gatherings.
- Neighborhood parks are smaller parks that provide access to green space and essential recreation opportunities, ranging from 1 to 10 acres in size. They support playgrounds, picnic areas, and small group gatherings.
- Special use sites offer unique amenities and stand-alone facilities such as the Irvine Animal Care Center and Sepulveda Vista Point.
- Open space includes natural resource and wildlife habitats with restricted access, as well as some preserves that allow visitor use or are designed as trail corridors for public use.

Table 4.12-9
Public Park System

Park/Facility Name	Acres	Facilities
Community Parks		
Colonel Bill Barber Marine Corps Memorial	48	Ball diamond, Soccer field, Batting Cages, Tennis Court, Child Play Area, Open Play Area (Turf), Amphitheater/stage, Group Picnic Area
Cypress	17.9	Ball diamond, Soccer field, Basketball Court, Tennis Court, Child Play Area, Open Play Area (Turf), Community Center
David Sills Lower Peters Canyon	10.3	Soccer field, Tennis Court, Child Play Area
Deerfield	10.2	Volleyball court, Disc Golf Course, Fitness Par Course, Tennis Court, Racquetball/Handball Court, Child Play Area, Open Play Area (Turf), Group Picnic Area, Community Center
Harvard	26.9	Ball diamond, Soccer field, Batting Cages, Group Picnic Area, Community Center
Heritage	36.5	Ball diamond, Soccer field, Volleyball court, Basketball Court, Tennis Court, Racquetball/Handball Court, Pool, Child Play Area, Open Play Area (Turf), Amphitheater/Stage, Lake/pond Group Picnic Area, Community Center, Fine arts center, Child Resource Center
Hicks Canyon	16.7	Ball diamond, Soccer field, Child Play Area, Open Play Area (Turf), Group Picnic Area
Las Lomas	18.3	Ball diamond, Soccer field, Basketball Court, Tennis Court, Racquetball/Handball Court, Child Play Area, Open Play Area (Turf), Group Picnic Area, Community Center
Los Olivos Community Park	12.5	
Mark Daily Athletic Fields	8.4	Ball diamond, Soccer field, Batting Cages
Mike Ward – Woodbridge	22	Volleyball court, Basketball Court, Racquetball/Handball Court, Shuffleboard Court, Amphitheater/Stage, Horseshoes, Group Picnic Area, Senior Center

Table 4.12-9 Public Park System		
Park/Facility Name	Acres	Facilities
Northwood	17.7	Ball diamond, Soccer field, Fitness Par Course, Basketball Court, Tennis Court, Racquetball/Handball Court, Shuffleboard Court, Child Play Area, Open Play Area (Turf), Group Picnic Area, Community Center
Oak Creek	11.8	Ball diamond, Soccer field, Child Play Area, Group Picnic Area, Oak Creek Dog Park
Great Park	1,300	
Portola Springs	32	
Quail Hill	16.9	Ball diamond, Soccer field, Basketball Court, Group Picnic Area, Community Center
Rancho San Joaquin	2.1	Senior Center, Historical Society Museum
Trabuco Center	2.8	Senior and Multigenerational Community Center
Turtle Rock	20.6	Ball diamond, Volleyball court, Tennis Court, Child Play Area, Open Play Area (Turf), Amphitheater/Stage, Group Picnic Area, Community Center, Nature Center
University	16.3	Ball diamond, Soccer field, Volleyball court, Basketball Court, Tennis Court, Racquetball/Handball Court, Child Play Area, Open Play Area (Turf), Group Picnic Area, Community Center
Windrow	18.9	Ball diamond, Soccer field, Batting Cages, Basketball Court
Woodbury	10.7	Ball diamond, Soccer field, Basketball Court, Child Play Area, Open Play Area (Turf), Group Picnic Area, Community Center
Community Parks Subtotal	**1,669.1**	
Neighborhood Parks & Vistas		
Alderwood	0.7	Open Play Area (Turf)
Blue Gum	2.7	Volleyball court, Child Play Area, Open Play Area (Turf)
Bommer Vista Point	0.5	
Brywood	6	Ball diamond, Soccer field, Child Play Area, Open Play Area (Turf), Group Picnic Area
Canyon	3.4	Basketball Court, Child Play Area, Open Play Area (Turf)
Carrotwood	3.1	Soccer field, Volleyball court, Basketball Court, Child Play Area, Open Play Area (Turf), Group Picnic Area
Chaparral	9.6	Fitness Par Course, Child Play Area, Open Play Area (Turf)
Citrusglen	3.1	Tennis Court, Child Play Area, Open Play Area (Turf), Group Picnic Area
College	7.6	Volleyball court, Child Play Area, Open Play Area (Turf)
Comstock	1	Basketball Court, Child Play Area, Open Play Area (Turf), Group Picnic Area
Coralwood	2.7	Child Play Area, Open Play Area (Turf)
Creekview	0.7	Off-site trail access
Cypress Grove	9.4	Ball diamond, Soccer field, Batting Cages, Basketball Court, Child Play Area, Open Play Area (Turf)
Dovecreek	7.8	Ball diamond, Soccer field, Child Play Area, Group Picnic Area
Eastwood	6.1	
Flagstone	2.3	Open Play Area (Turf), Group Picnic Area
Hoeptner	2.2	Tennis Court, Child Play Area, Open Play Area (Turf)
Homestead	2.1	Tennis Court, Child Play Area, Open Play Area (Turf), Group Picnic Area
Knollcrest	5	Tennis Court, Child Play Area, Group Picnic Area
Meadowood	10.1	Ball diamond, Soccer field, Volleyball court, Basketball Court, Child Play Area, Open Play Area (Turf), Group Picnic Area

Table 4.12-9 Public Park System		
Park/Facility Name	Acres	Facilities
Orchard	6	Ball diamond, Soccer field, Basketball Court, Child Play Area, Open Play Area (Turf), Group Picnic Area
Pepperwood	3.1	Child Play Area, Open Play Area (Turf), Group Picnic Area
Pinewood	2.1	Child Play Area, Open Play Area (Turf), Group Picnic Area
Plaza	7.7	Ball diamond, Soccer field, Child Play Area, Group Picnic Area
Presley	2.9	Volleyball court, Child Play Area, Open Play Area (Turf)
Racquet Club	2.2	Tennis Court, Child Play Area, Open Play Area (Turf)
Neighborhood Parks & Vistas IBC		
Ranch	8.7	Child Play Area, Open Play Area (Turf), Group Picnic Area,
San Carlo	6	Tennis Court, Child Play Area, Open Play Area (Turf), Group Picnic Area,
San Leandro	4	Ball diamond, Soccer field, Child Play Area, Open Play Area (Turf), Group Picnic Area,
San Marco	5.1	Basketball Court, Child Play Area, Open Play Area (Turf), Group Picnic Area,
Sepulveda Vista Point	1.3	
Settlers	6	Soccer field, Volleyball court, Basketball Court, Child Play Area, Open Play Area (Turf), Group Picnic Area,
Silkwood	3.9	Volleyball court, Child Play Area, Open Play Area (Turf),
Stonegate	6	Ball diamond, Soccer field, Volleyball court, Basketball Court, Tennis Court, Child Play Area, Group Picnic Area,
Sweet Shade	7.9	Basketball Court, Child Play Area, Open Play Area (Turf), Community Center
Sycamore	6.9	Child Play Area, Open Play Area (Turf), Group Picnic Area,
Valencia	6	Soccer field, Child Play Area, Open Play Area (Turf), Group Picnic Area,
Valley Oak	3	Basketball Court, Tennis Court, Child Play Area, Open Play Area (Turf), Group Picnic Area,
Willows	3.6	Basketball Court, Child Play Area, Open Play Area (Turf), Group Picnic Area,
Neighborhood Parks Subtotal	**178.5**	
Special Use Sites		
Animal Care Center	3.73	
Bommer Canyon Trail Head	12.44	
Jeffrey Open Space Trail	31.7	
Orchard Hills Trailhead	1.86	
Quail Hill Trailhead	2.8	
Special Use Sites Subtotal	**52.5**	
Regional Parks		
William R Mason Regional Park	345	Ball diamond, Fitness Par Course, Tennis Court, Child Play Area, Open Play Area (Turf), Amphitheater/Stage, Lake/Pond, Horseshoe, Group Picnic Area, Off-street trail access, soft-surfaced trail/nature trail, Hard Surfaced Trail, 123 acre golf course
Regional Park Subtotal	**345**	
City Open Space		
Southern Open Space Preserve	4,704.98	
Bommer Canyon Trailhead	3.2	
Quail Hill Trailhead	2.8	
Northern Open Space Preserve	6,872.34	

Table 4.12-9 Public Park System		
Park/Facility Name	Acres	Facilities
Orchard Hills Trailhead	1.7	
Jeffrey Open Space Trail (JOST)	69.92	
Turtle Rock Areas	699.80	
Newport Beach Parcels	60.67	
Wildlife Corridor	190.98	
Agua Chinon	77.35	
Total for Open Space	**12,683.74**	
TOTAL EXISTING	**14,937.34**	
SOURCE: City of Irvine 2017. [1]Developed/Undeveloped Acres		

4.12.1.5 Libraries

Library services within the City are provided by the Orange County Public Library system (OCPL), a network of 34 branches providing various services to residents throughout Orange County (Table 4.12-10). There are currently three libraries located within the City, but residents can access any of OCPL's libraries. On February 28, 2023, the City Council authorized and directed staff to send a letter of intent notifying the County of Orange that the City intends to withdraw from the OCPL system. However, negotiations are ongoing, and a decision has not yet been made. Any plans for staying with the OCPL system or withdrawing to create a City Library system will be brought before City Council for final decision (City of Irvine 2024b).

Table 4.12-10 Library System			
Branch	Square Footage	Ownership	Location
Heritage Park	21,000	City-owned, 55-year lease to County	14361 Yale Avenue, Irvine, CA 92604
University Park	11,411	OCPL	4512 Sandburg Way, Irvine, CA 92612
Katie Wheeler	11,250	OCPL	13109 Old Myford Road, Irvine, CA 92602
SOURCE: City of Irvine 2024b.			

4.12.2 Applicable Regulatory Requirements

4.12.2.1 State

a. California Fire Code

The 2022 California Fire Code (California Code of Regulations Title 24, Part 9) establishes regulations to safeguard against the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement,

replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas. The City has adopted the California Fire Code within Title 5, Division 9 the Municipal Code, including appendices addressing fire-flow requirements for buildings.

b. Assembly Bill 2926

Assembly Bill (AB) 2926, passed in 1986, allows school districts to collect impact fees from developers of new residential and commercial/industrial building space to assist in providing school facilities for students. Development impact fees (DIFs) are also referenced in the 1987 Leroy Greene Lease-Purchase Act, which requires school districts to contribute a matching share of costs for construction, modernization, and reconstruction projects.

c. Senate Bill 50 (Statutes of 1998), State School Funding, Education Code Section 17620

Senate Bill (SB) 50, adopted in 1998, limits the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development. It also authorizes school districts to levy statutory developer fees at levels higher than previously allowed and according to new rules. California Education Code 17620 establishes the authority of any school district to levy a fee, charge, dedication, or other requirements against any development within the school district for the purposes of funding the construction of school facilities, as long as the district can show justification for the fees.

d. Quimby Act

The City's Municipal Code Title 5, Division 5, Chapter 10 Section 5-5-1004, Park Dedication implements the 1975 Quimby Act (Government Code Section 66477). The Quimby Act authorizes only cities and/or counties, as part of the State Subdivision Map Act, to require subdividers to provide the dedication of parkland and/or fees. The fees must be paid, and land conveyed directly to the appropriate city and/or county agency, and not to a special district or homeowners association. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities. Additionally, the Quimby Act requires that the fees/improvements be used only for the purpose of rehabilitating existing neighborhood parks or recreational facilities to serve the subdivision.

4.12.2.2 Local Regulations

a. Existing General Plan (2000)

Tables G-1 and G-2 of the General Plan Public Facilities and Services Element outline general guidelines and standards for the provision of public facilities and services, including police services,

fire services, school facilities, library services, child care and senior centers, community center/youth centers, and swimming pools.

The purpose of the Parks and Park Facilities Standards is to establish park development standards for guidance in acceptance of park land, collection of park fees, or provision of in lieu improvements, and criteria for design of public and private parks. The City's General Plan and Subdivision Ordinance require developers to dedicate park land and/or improvements/amenities, and/or pay fees in lieu of dedication, at a rate of five (5) acres per thousand (1,000) population (General Plan, Element K and Subdivision Ordinance, Section 5-5-1004). The City's public park system is divided into two park categories: community parks and neighborhood parks. Neighborhood parks are further divided into public and private parks. The allocation of land and improvements is apportioned at two acres to community parks and three acres to public and/or private neighborhood parks.

The following guidelines are used when planning parks:

1. To serve the community as a whole, a 20-acre improved community park for every 10,000 population is the Community Services Commission's goal when developing residential villages. Development agreements are considered when needed to vary the allocation of park credits to allow for development of community parks.
2. Public neighborhood parks are incorporated within residential developments to serve the immediate neighborhood, supplemented by private parks. Private parks and/or improvements to private parks shall be provided when they have a clear benefit to the community.
3. The Community Services Commission, working with the development community, endeavor to address the development of parks at the earliest stages of development, to communicate the City's park interests.

b. Orange County and Orange County Fire Authority Hazard Mitigation Plan

Orange County and the OCFA have partnered since 2010 to produce a Multi-Jurisdictional Hazard Mitigation Plan. Last updated in 2020, the plan outlines strategies for mitigating natural hazards including fire hazards in county unincorporated areas and areas that the OCFA services.

c. Parks Master Plan

The City's Parks Master Plan was adopted in 2017 and serves to guide maintenance, development, and operation of the City's parks and recreation system for 10 years. The plan identifies potential policy changes and opportunities for upgrading the City's 60 public parks. The plan focuses on projects for public parks, park facilities, and recreation programs that may enhance the public experience and respond to evolving needs and expectations. The Master Plan also includes criteria that assists in the identification of projects to include in the annual Capital Improvement Program budget.

d. Municipal Code

Title 3 (Community Services), Division 4 (Parks)

The parks ordinance establishes use and permitting requirements within City parks and open spaces. The code also establishes rules, procedures, policies, and regulations governing the use of parks and open spaces by the public.

Title 5 (Planning), Division 5 (Subdivisions), Chapter 10 (Dedications; Reservations).

Municipal Code Section 5-5-1004- Park Dedication, subsections C and D, authorize the Planning Commission, upon the recommendation of the Community Services Commission, to determine distribution of public/private neighborhood parks and/or fees. Additionally, the Municipal Code requires that all parks comply with the most current, applicable national and state codes, regulations, and standards. Provision of City parkland consistent with the Quimby Act requires that the City monitor the ratio of residents to parkland. Maintenance of this ratio not only ensures that the provision of park space keeps pace with demand caused by population growth, but also prevents the deterioration of existing facilities from overuse. The City established the required parkland space for subdivisions at five acres per 1,000 residents, which is consistent with the Quimby Act. The implementation of a project can affect this ratio. Therefore, individual projects have the potential to increase use of park facilities and hasten their deterioration. For this reason, it is important that environmental analysis disclose a project's potential to create such impacts and identify any need for additional facilities.

Prior to the issuance of building permits on land required as a private park by local and/or state development standards, applicants are required to submit, and the Directors of Community Development and Community Services shall approve, an instrument reserving such required park land in perpetuity.

C. Park Dedication Standards. All standards for park dedication a comply with the Quimby Act (State of California Government Code section 66477), the California Subdivision Map Act, and the City General Plan Parks and Recreation Element. The developer of residential subdivisions shall dedicate park land and/or fees in lieu, at the rate of five acres per 1,000 population, apportioned as follows:

- Two acres – Community parks
- Three acres – Neighborhood parks

E.2 Disposition of Land or Fees. All park fees shall be paid directly to the City prior to issuance of any residential building permits for the building site or sites from which fees are to be derived. These fees are to be used only for the purpose of developing new or rehabilitating existing park or recreational facilities to serve the subdivision.

e. Planning Commission Resolution No. 09.-2968

Standard Conditions are adopted by Planning Commission Resolution No. 09-2968. These conditions assist staff in applying standardized wording for frequently used conditions of approval for discretionary and subdivision applications. Standard conditions are applied on a case-by-case basis

depending upon the specifics of the application. Companion conditions are cross-referenced and are required to be used together. The following standard conditions related to hazards and hazardous materials apply:

Fire Protection

City Standard Condition 2.19 (Open Space Fuel Modification)

Prior to issuance of precise grading permits for any lots adjacent to open space, the applicant shall submit a fuel modification plan prepared to the satisfaction of the Director of Community Development for review and approval, in consultation with the Director of Community Services. The fuel modification plan shall be approved by the Orange County Fire Authority (OCFA). The requirements set forth in this condition do not apply to developed, irrigated park land required or provided as part of the project design for this project.

City Standard Condition 3.14 (HOA/Fuel Modification)

Prior to the issuance of building permits for any dwelling units on lots located adjacent to or within fuel modification zones, the applicant shall provide evidence that there is a requirement included in the CC&Rs that any changes to plant materials located within fuel modification zones must be approved by the Director of Community Development and be consistent with applicable OCFA requirements. For fuel modification zones adjacent to lands designated as Open Space, changes in plant materials shall also be reviewed by the Director of Community Services.

City Standard Condition 4.9 (Emergency Access Inspection)

Prior to authorization to use, occupy, and/or operate, the applicant shall arrange for and have passed an inspection, to be performed by the Police Department and the OCFA, to ensure compliance with the Emergency Access Plan requirements. The inspector shall verify test acceptance and locations of all Knox boxes, key switches and Click2Enter devices as depicted on the approved plan.

City Standard Condition 4.12 (Phased Occupancy of Multi-Building Residential Development)

Phased occupancy of any portion of this multi-building development project is subject to approval by Building and Safety and the OCFA. Such phasing shall provide a clear and effective separation between the areas open to building users and occupants and construction areas including staging and access. Additionally, all fire-life-safety, security, accessibility features, parking and other applicable planning standards and conditions serving those portions of the development to be occupied shall be installed, approved and accepted by the City and/or OCFA. Such features must remain in place and fully functional throughout the remaining project build-out.

Police Protection

City Standard Condition 3.6 (Site Lighting Requirement)

Prior to the issuance of building permits, the applicant shall demonstrate they have met the Irvine Uniform Security Code requirements for lighting by providing the below listed items for a complete

review by the Police department. Failure to provide a complete lighting package will result in the delay of satisfaction of this condition.

a. Electrical plan showing light fixture locations, type of light fixture, height of light fixture, lighting ratio, and point-by-point photometric lighting analysis overlaid onto a tree landscape plan with a legend. The photometric plan should only show those fixtures used to meet the Irvine Uniform Security Code requirements.
b. Site plan demonstrating that landscaping shall not be planted so as to obscure required light levels per the Irvine Uniform Security Code.
c. Site plans that are full-scale and legible.

City Standard Condition 3.17 (Emergency Access Plan)

Prior to the issuance of the first building permit, the applicant shall submit and have approved by the Chief of Police an Emergency Access Plan, which identifies and locates all Knox Boxes, Knox key switches, and Click2Enter radio access control receivers per the Irvine Uniform Security Code requirements. Said plan shall be incorporated into the plan set approved for building permits.

City Standard Condition 3.18 (Wayfinding (Directional) Plan)

Prior to the issuance of the first building permit, a Wayfinding (directional) Plan including exterior building numbers, unit numbers, directional building/unit signs, vehicle directional signage, parking structure identification/directional signage, trail signage, and other signage as required by the Irvine Uniform Security Code, shall be approved by the Chief of Police. Said plan shall be incorporated into the plan set approved for building permits.

City Standard Condition 3.20 (Construction Site Security Plan)

Prior to the issuance of the first building permit, a Construction Site Security Plan, per the Irvine Uniform Security Code, Section 5-9-521, shall be approved by the Chief of Police. Said plan shall be incorporated into the plan set approved for building permits.

City Standard Condition 4.9 (Emergency Access Inspection)

Prior to authorization to use, occupy, and/or operate, the applicant shall arrange for and have passed an inspection, to be performed by the Police Department and the Orange County Fire Authority, to ensure compliance with the Emergency Access Plan requirements. The inspector shall verify test acceptance and locations of all Knox boxes, key switches and Click2Enter devices as depicted on the approved plan.

Parks and Recreation

City Standard Condition 1.10 (Easement for Public Trail)

Prior to the release of a final map by the City, an irrevocable offer of dedication for nonexclusive easements for public use of any public trail(s) shall be shown on the final map. Improvements, recordation, and dedication of public trails shall be subject to the approval of the Director of

Community Services. At the discretion of the City Engineer and with consultation with the Director of Community Services, the easements may be recorded after the final map.

City Standard Condition 1.11 (Open Space Irrevocable Offer)

Prior to the release of a final map by the City for land that encompasses or lies within an Open Space Implementation Action Program District as shown on the City's General Plan and Zoning Ordinance or will be dedicated as public open space, the applicant shall submit an irrevocable offer of dedication for the preservation open space lot and/or easement, as required by the City's Phased Dedication and Compensating Development Opportunities Program. The irrevocable offer of dedication and/or easement shall be in the form approved by the City Attorney and prepared to the satisfaction of the Director of Community Development, the City Engineer, and the Director of Community Services. The offer shall be recorded concurrently with recordation of the final map.

City Standard Condition 1.12 (Public Park Dedication)

Prior to the release of the final map that includes public park land, the applicant shall submit all documents ready for recording of such dedication to the City Engineer and the Director of Community Services for review and approval. At the discretion of the City Engineer, the dedication of public park land may be recorded with the final map.

City Standard Condition 2.15 (Private Trail Reservation)

Prior to the issuance of the first grading permit on land required as a private trail, the applicant shall submit and the Directors of Community Development and Community Services shall have approved an instrument reserving such required park land in perpetuity.

City Standard Condition 2.16 (Public Trail Dedication)

Prior to the issuance of the first precise grading permit that includes public trails, the applicant shall submit all documents necessary to record nonexclusive easements for public use of such trails in a form or forms approved by the City Attorney and prepared to the satisfaction of the City Engineer, Director of Community Services, and Director of Community Development. The City Engineer may permit the public trail dedication to be recorded separately from the final map.

City Standard Condition 2.17 (Public Park Dedication)

Prior to the issuance of the first precise grading permit for a lot that is to be dedicated as a public park, the applicant shall submit all documents necessary to record the public parkland dedication in a form or forms approved by the City Attorney and prepared to the satisfaction of the City Engineer, Director of Community Services, and Director of Community Development.

City Standard Condition 2.18 (Park Construction Phasing)

Prior to the issuance of the first residential precise grading permit (with the exception of model homes), the applicant shall submit a park construction and phasing schedule to the Director of Community Development and obtain approval of the schedule from the Director of Community Services. The park construction and phasing schedule shall include the following information:

a. Number and types of residential units to be built and estimated population count.
b. Lot numbers and size of each public and private park.
c. Improvements to be built within each park.
d. A phasing plan specifying when each park will commence and complete construction.

City Standard Condition 3.11 (Park Design Consistency)

Prior to the issuance of a building permit for any park, the applicant shall demonstrate that all related construction plans are consistent with approved Park Design _____-PPD.

City Standard Condition 3.12 (Private Park Reservation)

Prior to the issuance of building permits on land required as a private park by local and/or state development standards, the applicant shall submit and the Directors of Community Development and Community Services shall have approved an instrument reserving such required park land in perpetuity.

f. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the project and will help to reduce and avoid potential impacts related to public services and recreation:

- PPP PS&R-1: Compliance with City Standard Condition 2.19 (Open Space Fuel Modification)
- PPP PS&R-2: Compliance with City Standard Condition 3.14 (HOA/Fuel Modification)
- PPP PS&R-3: Compliance with City Standard Condition 4.9 (Emergency Access Inspection)
- PPP PS&R-4: Compliance with City Standard Condition 4.12 (Phased Occupancy of Multi-Building Residential Development)
- Police Protection
- PPP PS&R-5: Compliance with City Standard Condition 3.6 (Site Lighting Requirement)
- PPP PS&R-6: Compliance with City Standard Condition 3.17 (Emergency Access Plan)
- PPP PS&R-7: Compliance with City Standard Condition 3.18 (Wayfinding (Directional) Plan)
- PPP PS&R-8: Compliance with City Standard Condition 3.20 (Construction Site Security Plan)
- PPP PS&R-9: Compliance with City Standard Condition 4.9 (Emergency Access Inspection)
- Parks and Recreation
- PPP PS&R-10: Compliance with City Standard Condition 1.10 (Easement for Public Trail)
- PPP PS&R-11: Compliance with City Standard Condition 1.11 (Open Space Irrevocable Offer)
- PPP PS&R-12: Compliance with City Standard Condition 1.12 (Public Park Dedication)
- PPP PS&R-13: Compliance with City Standard Condition 2.15 (Private Trail Reservation)
- PPP PS&R-14: Compliance with City Standard Condition 2.16 (Public Trail Dedication)
- PPP PS&R-15: Compliance with City Standard Condition 2.17 (Public Park Dedication)
- PPP PS&R-16: Compliance with City Standard Condition 2.18 (Park Construction Phasing)
- PPP PS&R-17: Compliance with City Standard Condition 3.11 (Park Design Consistency)
- PPP PS&R-18: Compliance with City Standard Condition 3.12 (Private Park Reservation)

Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed goals, objectives, policies, and implementation actions are applicable to the analysis of public services and recreation and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Land Use Element

Goal 4: Manage Growth to Ensure Balanced Residential and Nonresidential Development Throughout the City.

Objective LU-4. To achieve a balanced and sustainable distribution of land uses throughout the City by implementing equitable and inclusive land use policies that optimize the efficient use of land, promote environmental stewardship, and enhance quality of life for all residents.

- Policy (a): Ensure that land uses enable the City to provide necessary municipal services by:
  - Adjustments to square footage will be included in the development monitoring program and reflected in the statistical tables through annual technical updates. Institutional uses will be considered consistent with the General Plan if the following criteria are met:
    - Infrastructure capacity under existing and future (build out) conditions can accommodate additional development in the areas of circulation, fire, police, water, and flood control services.

Goal 5: Promote Economic Prosperity by Ensuring City Revenues Meet Expenditures and Provide Quality Services Without Burdensome Levels of Fees or Taxes.

Objective LU-5. To optimize the fiscal sustainability of the City of Irvine by aligning land use policies with economic development strategies to ensure that city revenues meet expenditures, provide quality services, and maintain fiscal stability without imposing burdensome levels of fees or taxes on residents and businesses.

- Policy (a): Maintain or improve existing service levels while extending services to newly developed areas.
- Policy (b): Pursue cost-saving measures while maintaining the quality of city services.

Goal LU-6: Achieve Harmonious Land Use Patterns Throughout the City.

Objective LU-6. To establish cohesive and harmonious land use patterns throughout the City by implementing integrated planning strategies that promote connectivity, sustainability, and community well-being while respecting the unique character and identity of different neighborhoods.

- Policy (g): Ensure residential development proposed in the Irvine Business Complex is located in areas where adequate supporting uses and public services and facilities can be provided. Housing designed for senior citizens should be located only in areas that are within reasonable walking distance or accessible by public transportation to such facilities.

Conservation and Open Space Element

Goal 6: Establish and maintain a network of parks and recreational areas that offer a wide range of leisure opportunities while promoting their sustainable development and maintenance.

Objective COS-6. Develop and maintain a network of parks and recreational areas that provide a variety of recreational opportunities, and which link and integrate other conservation and open space areas into the land use fabric of the City.

- Policy (a): Continue to coordinate parks and recreational opportunities through the General Plan and Parks Master Plan to ensure adequate and timely development of parks and recreational areas.
- Policy (b): Expand opportunities and places for casual nature-related recreation and leisure (e.g. the Jeffrey Open Space Trail) that are distinct from turf parks and protected wildlands.

Goal 10. Enhanced open space accessibility and utilization, and conservation efforts of resources.

Objective COS-10. The City commits to creating and fostering well-integrated and sustainable open space resources available to City residents and visitors..

- Policy (a): Provide a variety of public and private parks to meet resident needs.
- Policy (c): Encourage the creation of dynamic parks as special and unique places, adding or incorporating art and historic resources, innovative features, diverse landscaping, nature, varied color palettes, and welcoming amenities.
- Policy (d): Balance access to open space for outdoor recreation with conservation needs.

4.12.3 Significance Determination Thresholds

The City has adopted Appendix G of the State CEQA Guidelines as the significance thresholds for cultural resource impacts. A significant impact related to cultural resources would occur if the project would:

1) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:
    i. Fire Protection;
    ii. Police Protection;
    iii. Schools;
    iv. Parks/Recreational Facilities; or
    v. Other Public Facilities;

2) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or

3) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.12.4 Methodology

The potential for significant impacts associated with the project have been determined based upon review of existing secondary source information cited above relative to the provisions of public services (police, fire and emergency service, schools, and libraries in the City.

4.12.5 Topic 1: Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

i. Fire Protection;
ii. Police Protection;
iii. Schools;
iv. Parks/Recreational Facilities; or
v. Other Public Facilities?

4.12.5.1 Impact Analysis

a. Fire Protection

Impacts associated with public services are based on how an increase in population, whether it is permanent (residents) or temporary (workers), would affect the public service providers' ability to meet their demands. If an increase in population is substantial enough to require the construction of new facilities or the addition of new service units to meet growing needs, impacts would be potentially significant.

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway. Future development facilitated by the project may necessitate construction of additional fire stations. OCFA[1] has identified potential locations of future fire stations within the City, and future development under the project would be required to pay a DIF that would be used exclusively for future facility improvements necessary to ensure contribution of its fair share of the cost of facilities and equipment. Payment of the DIF would allow future site-specific development to contribute to its fair share cost of facilities and equipment due to the increased demand for fire protection services.

[1] Details regarding the City's ongoing negotiation with OCFA regarding a contract amendment or cessation of the existing contract to allow the City to operate its own fire authority are speculative and not yet known. Therefore, this impact analysis relies on existing data available from OCFA.

Construction of additional housing units over time may impact various public services and facilities. Such growth would likely require additional fire-rescue and police personnel, equipment, and facilities to protect and serve the public. Depending on actual demographic shifts and the number of units constructed, additional fire facilities may also be needed to serve the increases in population. Actual needs and potential locations would be determined in the future by the Fire Department as part of their planning process as development occurs, but increases in demand would be greatest in all three focus areas since the majority of new housing would be located there.

However, future development would occur incrementally through 2045, based on market conditions and other factors, such that fire protection facilities and services are not overburdened at any given time. Additionally, every project applicant shall be required to comply with all applicable OCFA codes, ordinance and standard conditions regarding fire prevention, and suppression measures relating to water improvement plans, fire hydrants, automatic fire extinguishing systems, fire access, access gates, combustible construction, water availability, and fire sprinkler systems. Future development would be required to comply with PPP PS&R-1 through PS&R-4 to further reduce impacts related to fire protection. Furthermore, Land Use Element goals and policies seeking to ensure balanced development throughout the City and s to ensure that land uses enable the City to provide necessary municipal services, including infrastructure capacity under existing and future (build out) conditions can accommodate additional development in the areas of circulation, fire, police, water, and flood control services.

Staffing levels for fire protection services within the City would continue to be established by the OCFA based on its contract with the City. Development of site-specific future housing would not directly result in sufficient demand to require construction of new fire facilities, since each incremental housing development would pay its fair share toward anticipated fire facility needs. Therefore, the project would not result in the need for new or altered fire protection facilities, and impacts would be less than significant.

b. Police Protection

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Future site-specific development could potentially increase demand for police protection facilities. Actual needs and potential locations would be determined in the future as development occurs, but increases in demand would be greatest in all three focus areas since the majority of new housing would be located there.

Future development would occur incrementally through 2045, based on market conditions and other factors, such that police protection facilities and services are not overburdened at any given time. Additionally, development site-specific future housing would not directly result in sufficient demand to require construction of new police facilities, since each incremental housing development would pay its fair share toward anticipated facility needs. Future development would also be required to comply with PPP PS&R-5 through PS&R-9 to further reduce impacts with respect to police services. Furthermore, Land Use Element Update goals and policies seeking to ensure balanced development

throughout the City and to ensure that land uses enable the City to provide necessary municipal services, including infrastructure capacity under existing and future (build out) conditions can accommodate additional development in the areas of circulation, fire, police, water, and flood control services would further the support the City in providing adequate police protection for new developments and their associated residents. Moreover, individual projects would be reviewed by City's Police Department to ensure they are designed with crime prevention features, natural surveillance, which deters unlawful behavior through the design of common spaces that are passively surveilled by building occupants and passerbys; territorial enforcement, which includes a hierarchy of spaces with the appropriate levels privacy and security; access control; and space management/maintenance to ensure maintenance and monitoring of lighting, access control hardware, and other features of the crime prevention through environmental design. Therefore, the project would not result in substantial adverse impacts associated with the need for new or altered police protection facilities, and impacts would be less than significant.

c. Schools

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Future site-specific residential development could potentially increase demand for additional school facilities. Actual needs and potential locations would be determined in the future as development occurs, but increases in demand would be greatest in all three focus areas since the majority of new housing would be located there. However, future development would occur incrementally through 2045, based on market conditions and other factors, such that school services are not overburdened at any given time. Pursuant to California Government Code Section 65995, the individual applicants shall pay developer fees to the appropriate school districts at the time building permits are issued; payment of the adopted fees would provide full and complete mitigation of school impacts. Per AB 2626 and SB 50, school districts may impose a fee in conjunction with the construction of new commercial or residential buildings and for those projects that are adding square footage to an existing commercial or residential building. A School Facilities Fee Determination Form shall be submitted in conjunction with the submittal of an application for Code Compliance Review and fees shall be paid per the City's Community Development Department School Facilities Fee Schedule. Alternatively, the applicant may enter into a school finance agreement with the school district(s) to address mitigation to school impacts in lieu of payment of developer fees, a mechanism that is often employed to develop future schools needed as a result of large-scale residential development in the City. The agreement shall establish financing mechanisms for funding facilities to serve the students from the project. If the applicant and the affected school district(s) do not reach a mutually satisfying agreement, then project impacts would be subject to developer fees. Development of site-specific future housing would not directly result in sufficient demand to require construction of new school facilities, since each incremental housing development would pay its fair share toward anticipated facility needs. Therefore, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, and impacts would be less than significant.

d. Other Public Facilities

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Future site-specific residential development could potentially increase demand for other public facilities. Actual needs and potential locations would be determined in the future as development occurs, but increases in demand would be greatest in all three focus areas since the majority of new housing would be located there. However, future development would occur incrementally through 2045, based on market conditions and other factors, such that public facilities are not overburdened at any given time. Future development would be subject to the payment of a DIF that would be used exclusively for future facility improvements necessary to ensure contribution of its fair share of the cost of facilities. Development of future site-specific housing would not directly result in sufficient demand to require construction or expansion of additional public facilities (including libraries), since each incremental housing development would pay its fair share toward anticipated needs. Furthermore, Land Use Element Update goals and policies seeking to ensure balanced development throughout the City and to ensure that land uses enable the City to provide necessary municipal services, including infrastructure capacity under existing and future (build out) conditions can accommodate additional development in the areas of circulation, fire, police, water, and flood control services would further support the City in providing adequate public facilities for future residents and visitors associated with new development projects. Based on the incremental increase in demand and the payment of DIF to address increased demand on public facilities, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered public facilities, and impacts would be less than significant.

4.12.5.2 Significance of Impacts

Future site-specific development would not directly result in sufficient demand to require construction of new public service facilities, since each incremental development would pay its fair share toward anticipated facility needs. Construction of any future public facilities would require separate environmental review and approval. Future development would be required to comply with these policies to further ensure that impacts with respect to public services would be less than significant. Furthermore, the updated Land Use Element includes Goal 4, Objective LU-4, Policy (a), which aims to ensure that future land uses are provided the necessary municipal services required for such uses, Goal 5, Objective LU-5, Policy(a), which aims to maintain or improve existing service levels while extending service to newly developed areas, and Goal 6, Objective LU-6, Policy (h), which aims to ensure that residential uses in the IBC area have adequate public services and facilities. Compliance with these goals would further support the City in providing adequate fire, police and other public facilities for visitors and residents associated with new development projects.

4.12.5.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.12.6 Topics 2 and 3: Parks and Recreational Facilities

Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

4.12.6.1 Impact Analysis

The City has established a parkland dedication requirement of five acres per 1,000 population, apportioned as follows: two acres for Community parks and three acres for Neighborhood parks. Based on data provided in the most recent Master Park Plan (1,847.6 acres of neighborhood and community parks, 345 acres of regional parks, and 12,683.7 acres of open space) and current population data (303,051 residents as of 2023) (City of Irvine 2024c), the City is under the required service standard. With a population of 303,051 residents, the required number of acres of park area is 1,515.3 acres, while the current total, excluding undeveloped open space, is 1,145 acres. Most of the City is built out, so future park planning efforts will include some new sites but will primarily focus on maintaining and upgrading existing sites. The Master Park Plan provides the vision for improving parks and recreational opportunities.

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Future site-specific residential development could potentially increase the use of existing neighborhood and regional parks or other recreational facilities. The existing and projected deficit in population-based parks and recreation facilities would remain upon implementation of the project. However, future development would occur incrementally through 2045, based on market conditions and other factors, such that parks are not overburdened at any given time. As such, there would not be a sudden increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. However, development under the project would be required to adhere to PPP PS&R-10 through PS&R-18, which would reduce impacts associated with increased need for park area and increased utilization of existing parks and recreation spaces. Future development under the project would also be subject to the requirements of the Quimby Act and the fee schedule established by the City for the payment of development impact fees to support the provision of new recreational facilities and the rehabilitation of existing neighborhood parks or recreational facilities. The proposed objective and policies in the update General Plan elements related to recreation would support the expansion of the City's recreational facility network as development occurs. For example, the updated Conservation and Open Space Element includes Goal 6, Objective COS-9,6 which aims to develop and maintain a network of recreational areas that provide a variety of recreational opportunities throughout the City. Policy (a) seeks to explore options to obtain lands for recreational uses, and Policy (b) seeks to continue to coordinate recreational opportunities through the General Plan to ensure adequate and timely development of recreational areas. Goal 10, Objective COS-1510 commits the City to creating and fostering integrated and sustainable open space resources for recreational purposes, and Policy (a) seeks to provide a variety of public and private parks to meet resident needs.

Development of future site-specific housing would not directly result in sufficient demand to require construction of new parks, since each incremental housing development would pay its fair share toward anticipated park needs through the payment of fees. Therefore, based on the incremental demand that would occur project buildout for park facilities and compliance with applicable regulations (such as the City's parkland standards), the project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated and would not have adverse physical effect on the environment caused by expansion or construction of recreational facilities, and impacts would be less than significant.

4.12.6.2 Significance of Impacts

Development of future site-specific housing would not directly result in sufficient demand to require construction of new park facilities, since each incremental housing development would pay its fair share toward anticipated park needs. Additionally, future development would occur incrementally through 2045, based on market conditions and other factors, such that parks are not overburdened at any given time. As such, there would not be a sudden increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, impacts associated with park and recreation facilities would be less than significant.

4.12.6.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.12.7 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for public serves and recreation. The study area for the assessment of cumulative impacts related to public services and recreation is the City. The impact analysis presented in Sections 4.12.5.1 and 4.12.5.2 above is cumulative in nature because it considers the need for future facilities to serve the entire City. As described in Sections 4.12.5 and 4.12.6 above, impacts with respect to fire, police, and other public facilities would be less than significant. However, the existing and projected deficit in population-based parks and recreation facilities would remain upon implementation of the project. However, future development would occur incrementally through 2045, based on market conditions and other factors, such that parks are not overburdened at any given time. As such, there would not be a sudden increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Furthermore, future site-specific development would be subject to the payment of a DIF that would be used exclusively for future facility improvements necessary to ensure contribution of its fair share of the cost of facilities and equipment determined to be necessary to adequately accommodate new development in the City. Payment of the DIF would allow future site-specific development to contribute to its fair share cost of facilities and equipment Therefore, the project would not contribute to a significant cumulative impact related to public services and recreation.

4.13 Transportation

This section evaluates potential impacts related to transportation due to implementation of the project. The analysis in this section is based on the Irvine General Plan Update Vehicle Miles Traveled (VMT) Traffic Study (2024; Appendix G).

4.13.1 Existing Conditions

4.13.1.1 Existing Roadway System

Arterial highways are designed to handle significant traffic volumes and/or high speeds. The current general plan categorizes types of arterial highways based on criteria set by the Orange County Master Plan of Arterial Highways (MPAH), overseen by the Orange County Transportation Authority (OCTA). Figure 4.13-1 presents an overview of the City of Irvine's (City) Master Plan of Arterial Highways. The defined categories are outlined as follows:

- Freeway: A divided state highway with restricted access solely through grade-separated interchanges, efficiently accommodating high volumes of traffic between cities. In Irvine, examples include the I-5 and I-405, forming the "El Toro Y" interchange, and the State Route 55 extending along the City's western border.
- Transportation Corridor: A multi-use facility with controlled access, featuring a wide median suitable for fixed rail or high occupancy vehicle lanes, alongside general purpose lanes, facilitating traffic flow between cities. In Irvine, toll roads like State Route 241 (Foothill Transportation Corridor), State Route 261, and State Route 133 (part of Eastern Transportation Corridor), and State Route 73 (San Joaquin Hills Transportation Corridor) serve this purpose.
- Expressway: An arterial highway with divided lanes and grade-separated intersections or access ramps, such as Jamboree Road in Irvine, linking the Irvine Business Complex (IBC) to northern neighborhoods and passing through former Marine Corps Air Station Tustin.
- Major Highway: A divided arterial highway with six to eight through lanes, connecting planning areas and providing access to freeways or transportation corridors. Examples in Irvine include Irvine Boulevard, Irvine Center Drive, and parts of Jamboree Road, Jeffrey Road, and Sand Canyon Avenue.
- Primary Highway: A divided arterial highway with four through lanes, connecting planning areas and activity centers within them, as well as serving as conduits to and from freeways or transportation corridors. Examples in Irvine include Barranca Parkway, Bryan Avenue, Trabuco Road, and Walnut Avenue.
- Secondary Highway: An undivided arterial highway with four through lanes, facilitating traffic movement between planning areas and activity centers within them. Examples in Irvine include Yale Loop, Ridgeline Drive, Research Drive, and Shady Canyon Drive.
- Commuter Highway: A two-lane undivided highway mainly serving as a collector road for through-traffic movements between arterials. Examples in Irvine include Harvard Avenue, Michelson Drive, and Turtle Rock Drive.

Map Source: City of Irvine

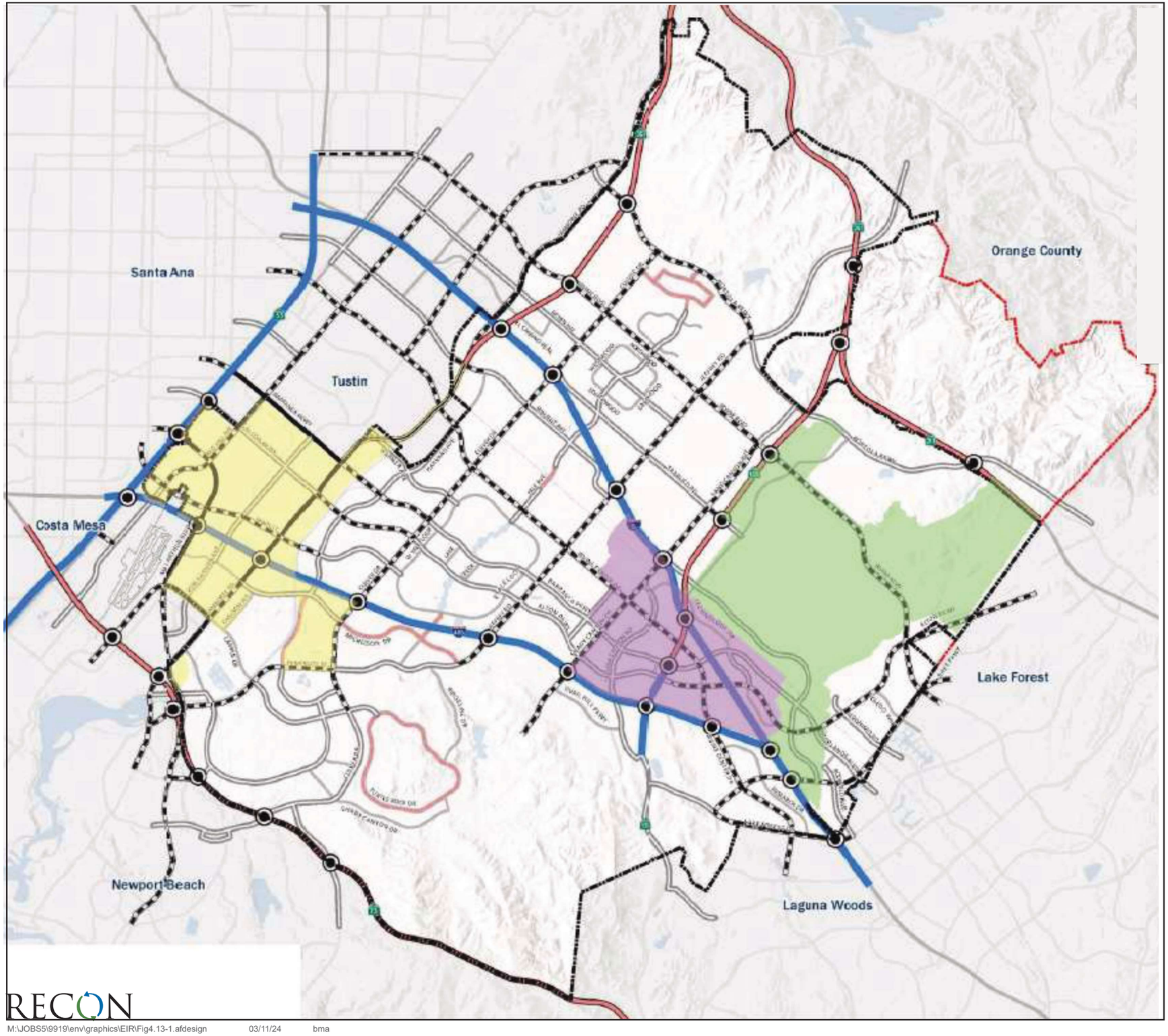

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FIGURE 4.13-1
Master Plan of Arterial Highways

The City's roadway system stands out for its well-defined hierarchy, contrasting with the typical layout seen in many large California cities. Unlike the scattered networks of streets often found elsewhere, Irvine's major arterial roads follow a predetermined master plan. Similarly, the City's minor streets, alleys, and trails are meticulously designed to serve specific land uses rather than adhering to a simple grid pattern. Collector streets may feature landscaped areas and offer views into public spaces, while residential streets often form curvilinear networks with cul-de-sacs. This deliberate layout reflects Irvine's segmented land use pattern, characterized by distinct enclaves, which contrasts with the continuous urban fabric seen in other cities.

- Local Streets: In the City, local streets are characterized by their low speed and traffic volume, primarily serving as access routes to residential, business, and adjacent properties. These streets often accommodate parking and witness significant pedestrian traffic. Examples are abundant in single-family residential neighborhoods, facilitating access to individual driveways and garages. Adjacent sidewalks may run parallel to the road or be separated by landscaping features.
- Alleys: Narrow, linear roadways behind buildings in Irvine, alleys link two or more local streets and offer direct access to garages or carports. Unlike older urban areas, Irvine has relatively few traditional alleys due to its post-World War II development.
- Driveways/Drive Aisle: Off-street roadways providing direct access to garages, carports, or parking lots are termed driveways, while those leading to multiple garages or parking spaces are drive aisles. In Irvine, multi-family residential complexes use internal drive-aisle networks to connect individual units to streets and provide guest parking, often landscaped with paths or gates.
- Private Ways and Private Courts: The City has several private ways and private courts, which are slow-speed roads within neighborhoods providing access to residential units, garages, and parking areas. Private courts are low-traffic dead-end lanes serving the same function but accommodating fewer daily vehicle trips.

4.13.1.2 Public Transit System

As operating costs for private autos rise, roadway congestion grows, and certain groups, such as the elderly, handicapped, and low-income individuals, face challenges in accessing private vehicles, public transit becomes a more attractive transportation option. As Irvine and the surrounding region continue to develop, regional transit providers are enhancing their services to meet the growing demand. Figure 4.13-2 presents an overview of transit services in the City.

- Rail Transit: The City enjoys convenient access to multiple rail transit options, including Amtrak and Metrolink. The Amtrak Pacific Surfliner provides regional passenger rail service with stops in key cities such as Fullerton, Anaheim, Santa Ana, Irvine, San Juan Capistrano, and San Clemente. Positioned between San Diego and Los Angeles, Irvine serves as a central stop in Orange County, boasting one of the nation's busiest Amtrak stations.

Map Source: City of Irvine

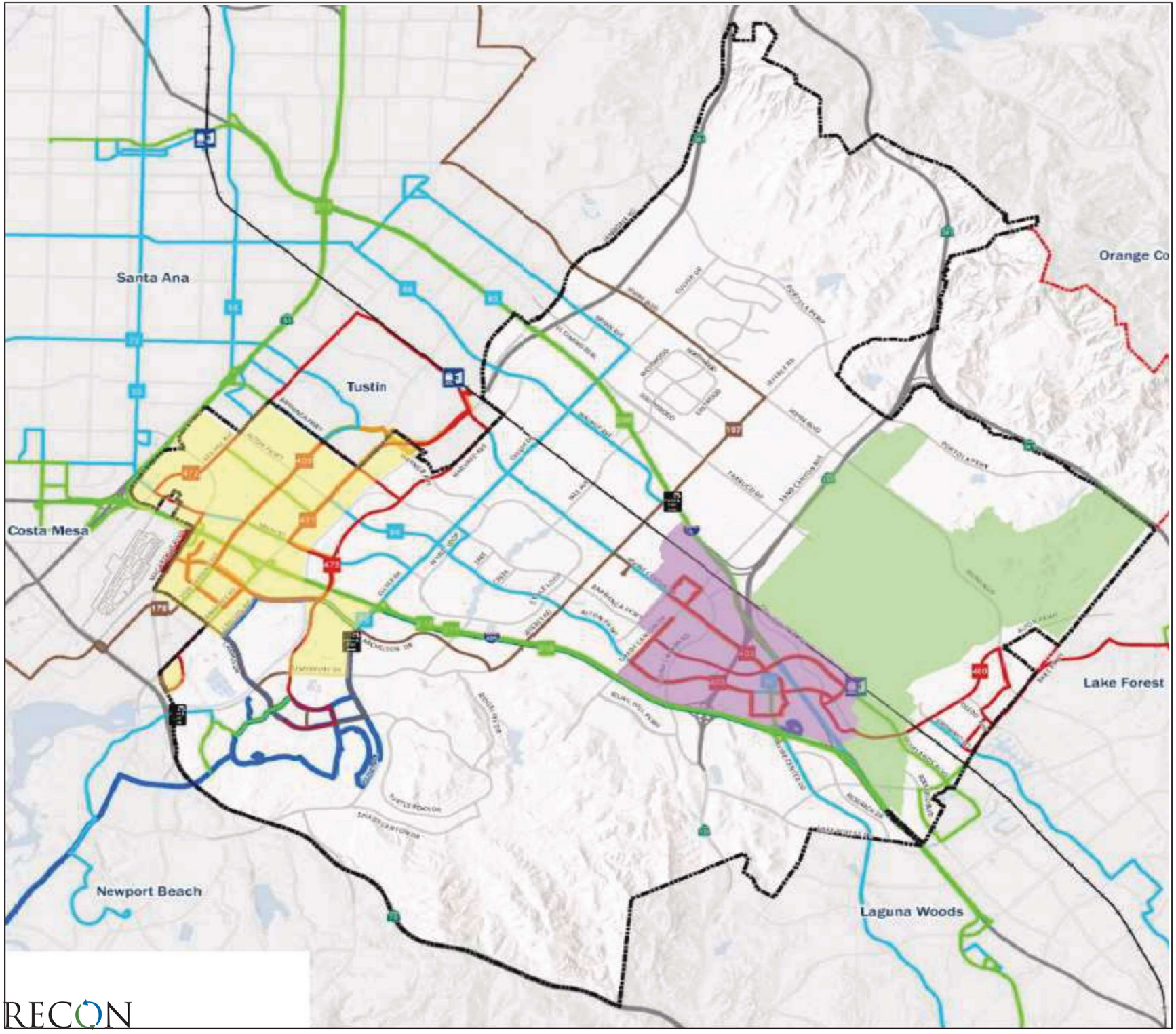

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FIGURE 4.13-2
Transit Services

- Metrolink: Metrolink operates trains along the Los Angeles to San Diego railroad right-of-way, including the Orange County Line and the Inland Empire-Orange County Line, offering weekday and weekend rail service. The Irvine Transportation Center, Orange County's busiest station, serves over a million commuters annually and offers connections to express, local, and rail-feeder bus services operated by OCTA and iShuttle. The station provides free parking in a 1,500-space structure, with extended parking options available for Amtrak customers through registration with on-site security.

- Local Transit: OCTA provides comprehensive transit services throughout Orange County, including Irvine, with routes catering to various needs, from regional commuters to local shuttles. In 2016, OCTA assumed operation and maintenance of the City's iShuttle program. The City offers Transportation for Irvine Residents with Disabilities (TRIPS) service, providing door-to-door transportation for residents aged 18 and above with permanent physical and/or cognitive disabilities. TRIPS operates during evenings, weekends, and holidays based on demand.

- Shuttle Service: The iShuttle, a clean-fuel, rubber-tire shuttle bus, operates within Irvine during weekday peak commute hours.

- Anteater Express: Managed by University of California, Irvine, the Anteater Express connects the campus with nearby neighborhoods, housing complexes, and destinations like Diamond Jamboree and the Irvine Spectrum. While some routes are free, others require a limited fare.

- Additional Public Transit: The City provides various transit options for seniors and individuals with special needs, including free transportation for seniors to medical appointments through the Senior Service Program. Age Well Senior Transportation Services offer nonemergency medical transportation countywide. The American Cancer Society provides complimentary transport for cancer treatments, and services are accessible for disabled American veterans. The City's Mobility Guide serves as a comprehensive directory of transit services tailored to seniors and special needs individuals.

4.13.1.3 Pedestrian and Bicycle Systems

Southern California is recognized for its heavy reliance on cars, often resulting in goods and services being distant from residential areas and limited accessibility within neighborhoods for accessing local amenities. However, owing to the City's meticulous master planning, the City boasts a robust network of pedestrian trails and bicycle routes. This well-constructed system of trails and pedestrian bridges has been strategically developed to facilitate unrestricted movement for both pedestrians and cyclists throughout the community. Figure 4.13-3 presents an overview of pedestrian facilities in the City and Figure 4.13-4 presents an overview of bicycle facilities in the City.

Map Source: City of Irvine

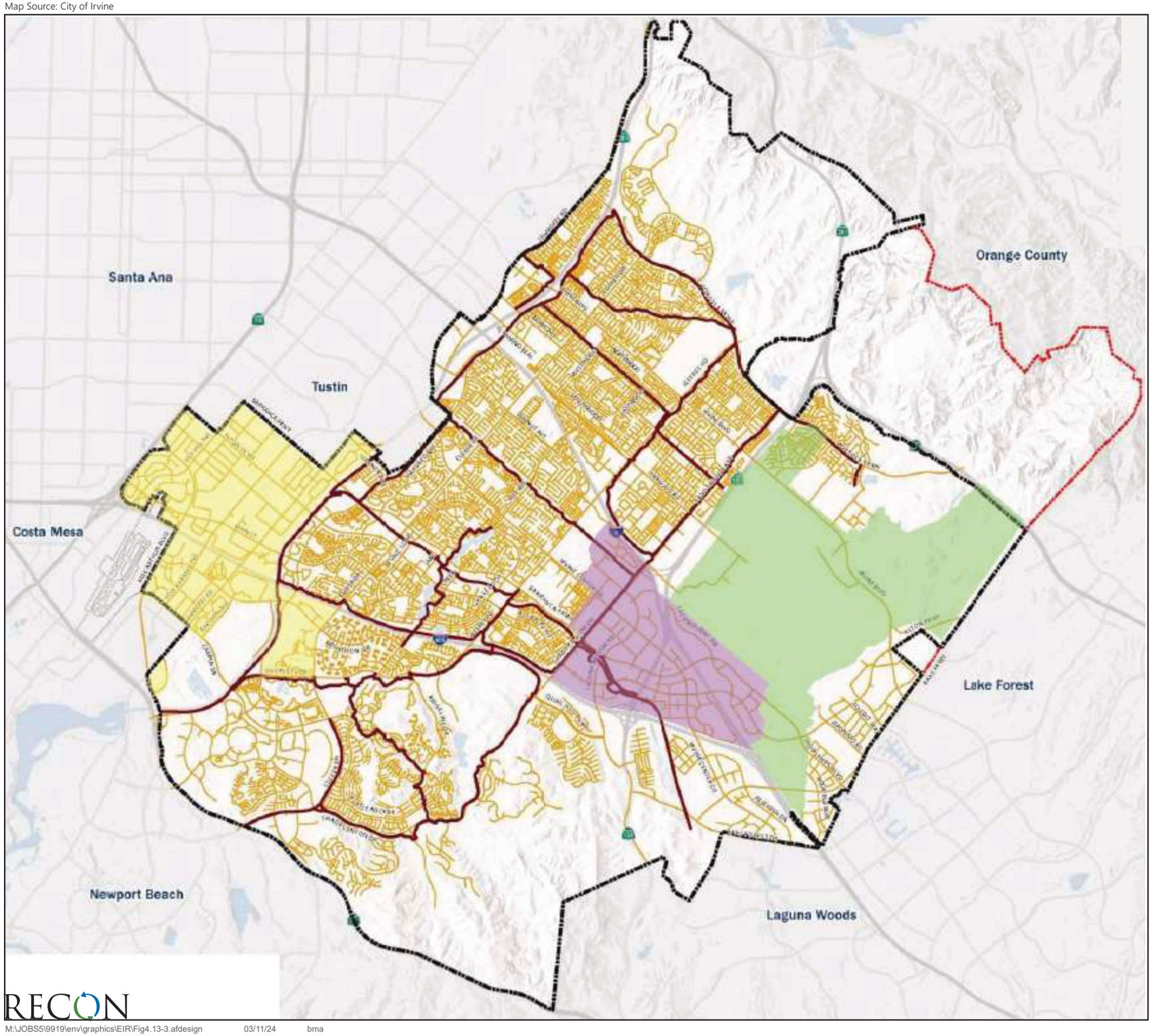

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FIGURE 4.13-3
Pedestrian Facilities

Map Source: City of Irvine

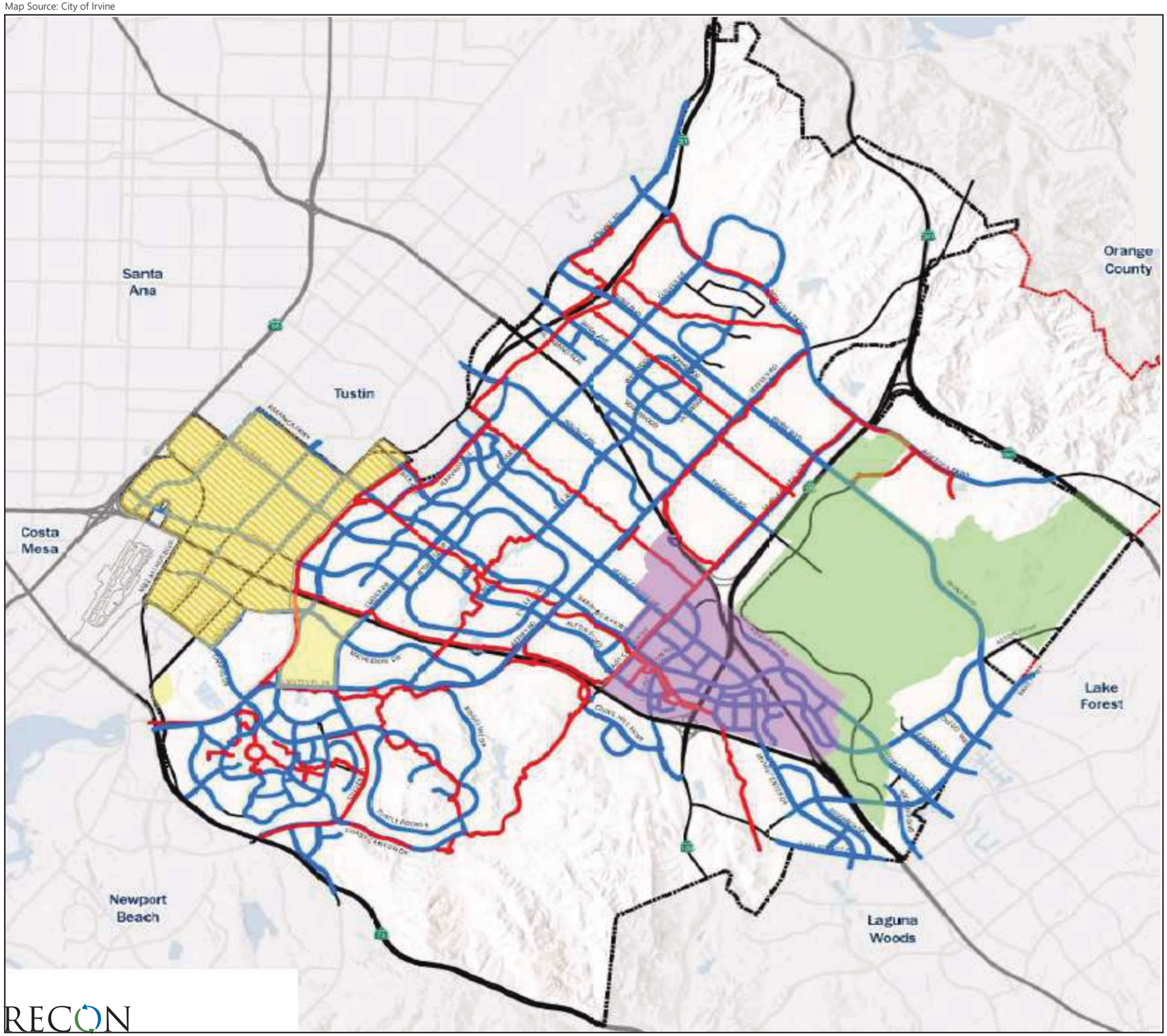

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FIGURE 4.13-4
Bicycle Facilities

- Sidewalks: The City boasts an extensive pedestrian-friendly sidewalk network, designed to enhance accessibility, and promote an active lifestyle. Most residential neighborhoods have well-served sidewalks, with parks conveniently located within walking distance. However, areas like the IBC historically lacked sidewalks due to their focus on commerce and industry, though recent residential development has spurred demand for pedestrian infrastructure. The City is responding by prioritizing new sidewalk construction aligned with the IBC Vision Plan. UC Irvine's campus is pedestrian and bicycle-friendly, with a layout focused on these modes of transportation. Pedestrian paths and a "ring road" facilitate convenient access to academic buildings and leisure activities. Informal trails in nature preserves like Quail Hill Preserve provide outdoor recreation opportunities.

- Pedestrian and Bicycle Bridges: Irvine's circulation system features numerous bridges and grade-separated crossings, enhancing safety and accessibility for cyclists and pedestrians. Notable examples include bridges within the Woodbridge community, across UC Irvine's campus, along the Jeffrey Open Space Trail, and planned bridges over Irvine Boulevard and Jamboree Road. These bridges are funded by area-wide fees and public benefit improvement funds.

- Bicycle Trails: Irvine's bicycle infrastructure includes Class I, II, and III bikeways, offering exclusive bike and pedestrian paths, marked lanes on streets, and shared routes with pedestrians or vehicles. With over 50 miles of off-street bikeways and 301 miles of on-street bikeways, Irvine provides extensive cycling opportunities along named routes like West Irvine Trail, Peters Canyon Trail, Jeffrey Open Space Trail, Sand Canyon Trail, and Portola Trail.

4.13.2 Applicable Regulatory Requirements

4.13.2.1 State Regulations

a. Assembly Bill 1358 (Complete Streets)

The California Complete Streets Act (Assembly Bill [AB] 1358) of 2008 requires circulation elements to address the transportation system from a multimodal perspective. The bill states that streets, roads, and highways must "meet the needs of all users . . . in a manner suitable to the rural, suburban, or urban context of the general plan." The Complete Streets Act requires that circulation elements plan for all modes of transportation where appropriate, including walking, biking, car travel, and transit, and that streets are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.

b. Senate Bill 375 (Sustainable Communities and Climate Protection Act)

The Sustainable Communities and Climate Protection Act (Senate Bill [SB] 375) provides guidance to reduce the number and length of automobile commuting trips, helping to meet the statewide targets for reducing greenhouse gas emissions set by AB 32.

SB 375 requires each Metropolitan Planning Organization to add a broader vision for growth to its transportation plan through development of a Sustainable Communities Strategy (SCS). The SCS

must lay out a plan to meet the region's transportation, housing, economic, and environmental needs in a way that enables the area to lower greenhouse gas emissions. The SCS should integrate transportation, land use, and housing policies to plan for achievement of the emissions target for each region. The latest Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted in 2020.

c. Senate bill 743 (General CEQA Reform, VMT)

SB 743 was signed into law on September 27, 2013. This legislation seeks to balance the needs of congestion management, infill development, public health, greenhouse gas reductions, and other goals. Passage of SB 743 resulted in revisions to the California Environmental Quality Act (CEQA) Guidelines, including elimination of auto delay, level of service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts, which were replaced with vehicle miles traveled (VMT) as the preferred CEQA transportation metric. The Office of Planning and Research released the Technical Advisory on Evaluating Transportation Impacts in CEQA in December 2018 to provide recommendations for the use of VMT metrics when analyzing land use projects and plans under CEQA.

d. California Fire Code

The California Fire Code establishes requirements pertaining to fire and life safety, including for building materials and methods, fire protection systems in buildings, emergency access to buildings, and handling and storage of hazardous materials (California Code of Regulations Title 24 Part 9).

4.13.2.2 Regional Regulations

a. Transportation Demand Management

Transportation Demand Management (TDM) refers to a comprehensive strategy to reduce driving and resulting VMT by promoting alternatives such as public transit, carpooling, bicycling, walking, and telecommuting. While some TDM measures can be undertaken by the City, such as investments in facilities and programs to encourage alternative modes of transportation, other TDM measures require collaboration with other jurisdictions, for example with transit providers to seek expanded service, or with employers to encourage flexible work schedules and the provision of on-site childcare, preferential carpool parking, and subsidized transit passes.

SCAG has developed a long-range planning vision to balance future mobility and housing needs with economic, environmental, and public health goals. The SCAG's 2020-2045 RTP/SCS has allocated $7.3 billion through 2045 to implement TDM strategies throughout the region. There are three primary goals of SCAG's TDM program:

- Reduce the number of single-occupant vehicle trips and per capita VMT through ridesharing (which includes carpooling and vanpooling) and providing first/last mile services to and from transit;
- Redistribute or eliminate vehicle trips during peak demand periods by supporting telecommuting and alternative work schedules; and

- Reduce the number of single-occupant vehicle trips through use of other modes such as transit, rail, bicycling, and walking, or other micro-mobility modes.

It should be noted that SCAG is currently in the process of updating this document and recently released the draft Connect SoCal 2024 for review and comment. The final Connect SoCal 2024 document is expected to go to the Regional Council for adoption in April 2024.

b. Orange County Congestion Management Program

The passage of Proposition 111 in June 1990 established a process for each metropolitan county in California, including Orange County, to prepare a Congestion Management Plan (CMP). The OCTA prepared the County's CMP in consultation with the County of Orange and the cities within Orange County. The Orange County CMP sets forth regional mobility objectives to reduce traffic congestion, provide a system for coordinating land-use and development decisions that support the regional economy, and to support gas tax funding eligibility. The CMP outlines policies for monitoring and managing system performance issues. The OCTA developed these policies in conjunction with local jurisdictions, the California Department of Transportation, and South Coast Air Quality Management District.

c. OC Go (Measure M2)

Measure M is a 30-year half-cent sales tax for transportation improvements in Orange County from 2011 to 2041. To be eligible for Measure M2 funds, a local jurisdiction must satisfy the following requirements:

- Comply with the conditions and requirements of the Orange County CMP.
- Establish a policy which requires new development to pay its fair share of transportation related improvements associated with their new development.
- Adopt a General Plan Circulation Element consistent with the MPAH.
- Adopt and update a Capital Improvement Program.
- Participate in Traffic Forums.
- Adopt and maintain a Local Signal Synchronization Plan.
- Adopt and update biennially a Pavement Management Plan.
- Adopt and provide an annual Expenditure Report to OCTA.
- Provide OCTA with a Project Final Report within six months following completion of a project funded with Net Revenues.
- Agree to expend Net Revenues received through M2 within three years of receipt.
- Satisfy Maintenance of Effort requirements.
- Agree that Net Revenues shall not be used to supplant developer funding.
- Consider, as part of the eligible jurisdiction's General Plan, land use and planning strategies that accommodate transit and non-motorized transportation

d. Orange County Transportation Authority Long Range Transportation Plan

The OCTA Long Range Transportation Plan (LRTP) outlines the vision and plan for multimodal transportation in Orange County. OCTA prepares the LRTP and submits it to SCAG so that county

transportation projects will be incorporated into the regional transportation plan and subsequently programmed into the Federal Transportation Improvement Program. The 2022 LRTP has four goals: (1) deliver on commitments; (2) improve transportation system performance, (3) expand transportation system choices; and (4) support sustainability.

e. Master Plan of Arterial Highways

The MPAH was established in 1956 to ensure that a regional arterial highway network would be developed to supplement Orange County's developing freeway system. OCTA is responsible for administering the MPAH, including the review and approval of amendments. The MPAH map is a critical element of transportation planning and operations because it defines a countywide circulation system in response to existing and planned land uses. It is regularly updated to reflect changing development and traffic patterns. In order to be eligible for OC Go (Measure M2) revenues and programs, a city's circulation element must be consistent with the MPAH and maintain the minimum number of lanes on each arterial in the MPAH.

f. Districts 1 and 2 Bikeways Strategy (2013)

OCTA's regional bikeways planning expanded the 2009 OCTA Commuter Bicycle Strategic Plan to identify potential regional bikeway improvements. The Districts 1 and 2 Bikeways Strategy was completed in 2013 and identifies 11 regional bikeway corridors that collectively comprise over 120 miles. These corridors connect to major activity centers, including employment areas, transit stations, and colleges and universities. The corridors also include key connections to regional bikeway routes and major destinations within the districts.

g. OCTA's OC Transit Vision

The OC Transit Vision is a 30-year plan for enhancing and expanding public transit service in Orange County. Adopted in 2018, the Transit Vision focuses future investments along transit opportunity corridors on major arterials and freeways. The Transit Vision also supports improvements to rail service planned by Metrolink and other partner agencies, including plans to improve station access and reduce the number of at-grade road crossings. The circulation mobility element adopts the transit opportunity corridors as part of its transit plan.

OCTA is currently developing the 2024 OC Transit Vision, which aims to integrate, enhance, and expand multimodal transportation services in Orange County. The OC Transit Vision will analyze current transit corridors, modes, transit supportive design, and policy recommendations. In addition, the plan will address the latest in transit technologies, respond to evolving ridership trends, and outline potential funding sources. The updated OC Transit Vision will provide a consistent, countywide transit approach that will be shared with local jurisdictions and other partner agencies to encourage coordination for advancing, funding, and implementation of transit-related recommendations both locally and regionally.

4.13.2.3 Local Regulations

a. Current General Plan (2000)

The Circulation Element of the City's existing General Plan (2000) includes the following objectives related to circulation:

Objective B-1: Roadway Development: Plan, provide and maintain an integrated vehicular circulation system to accommodate projected local and regional needs. This objective includes Policy (c), which establishes level of service (LOS) E as the acceptable standard of roadway operations.

Objective B-2: Roadway Design: Develop a vehicular circulation system consistent with high standards of transportation engineering safety and with sensitivity to adjoining land uses.

Objective B-3: Pedestrian Circulation: Establish a pedestrian circulation system to support and encourage walking as a mode of transportation.

Objective B-4: Bicycle Circulation: Plan, provide and maintain a comprehensive bicycle trail network that together with the regional trail system, encourages increased use of bicycle trails for commuters and recreational purposes.

Objective B-5: Riding and Hiking Trail Networks: Plan, develop and maintain a riding and hiking trail network and support facilities to satisfy the needs of riders and hikers.

Objective B-6: Public Transit Program: Work with Orange County Transportation Authority to implement a public transit system for trips within the City and adjacent areas.

b. Municipal Code

Title 6 (Public Works), Division 3 (Transportation), Chapter 6 (Trip Reduction Facilities)

This chapter is intended to meet the requirements of California Government Code Section 65089.3(b)(3), which requires development of a trip reduction and travel demand element to the Congestion Management Plan, and California Government Code Section 65089.3(b), which requires adoption and implementation of a trip reduction and travel demand ordinance. Developers of commercial, industrial, and mixed-use projects are required to provide the trip reduction support measures set forth in Section 6-3-605, as applicable, within each such development. Measures include:

1. A percentage of parking spaces, located as close as is practical to the entrance(s) of the use they are intended to serve, shall be reserved for use of carpool vehicles.
2. Secure, adequate, and convenient storage shall be provided for bicycles pursuant to the Zoning Code of the City.
3. Bus bays, bus stops and bus shelters shall be provided adjacent to roads and streets traversing or bounding the development, as requested by the City and pursuant to proposed

or existing bus stop locations identified by Orange County Transit District or its successor agency (i.e., Orange County Transportation Authority).
4. A transportation information center shall be provided within each building generating 100 or more employees.
5. A shower and locker room facility for each sex shall be provided in each building generating 400 or more employees.
6. Sidewalks or other paved pathways following direct and safe routes from the external pedestrian circulation system to each building in the development shall be provided.

Title 6 (Public Works), Division 3 (Transportation), Chapter 7 (North Irvine Transportation Mitigation Program)

The North Irvine Transportation Mitigation Program (NITM Program) is established for the purpose of providing funding for the coordinated and phased installation of required traffic and transportation improvements required under CEQA documents previously certified or adopted by the City in connection with land use entitlements for City Planning Areas 1/2, 5, 6, 8, 9, 40, and 30/51. The requirements regarding the preparation of traffic studies, reports, and analyses set forth in this chapter shall supersede the requirements regarding the preparation of traffic studies, reports, and analyses set forth in other City ordinances, resolutions, or determinations. This section also outlines the required NITM fees.

c. Zoning Ordinance

Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District)

Section 5-8-4.C (Airport Restrictions) of Chapter 5-8 outlines the provisions for development within the jurisdiction of the Airport Land Use Commission, including: building height limitations in accordance with the Orange County Environs Land Use Plan standards and Federal Aviation Administration Part 77 Imaginary Surfaces for John Wayne Airport; the prohibition of residential land uses within Safety Zone 3; and sound attenuation standards for residential and park uses.

Chapter 9-36 (Planning Area 36-Irvine Business Complex)

As outlined in Section 9-36-14 (IBC Traffic Improvement Fee Program) of Chapter 9-36, the intent of the IBC Traffic Improvement Fee Program is to provide partial funding for implementation of the area-wide circulation mitigation program identified in the Final Program EIR for the IBC Vision Plan. Section 9-36-14 requires all development projects within the IBC for which building permits are issued after the effective date of the 2010 IBC Vision Plan to comply with the requirements of the 2010 IBC Traffic Improvement Fee Program, including the payment of fees prior to the issuance of building permits as established by this section for the construction of area-wide traffic improvements, or if selected by the project applicant, construction of area-wide improvements in lieu of payment of fees.

d. Planning Commission Resolution No. 09-2968

City Standard Condition 1.5 (Shared Access Agreement)

Prior to the release of a final map by the City, the applicant shall submit to the City for review by the City Attorney the required shared access agreement. The City Engineer and the Director of Community Development shall have approved, appropriate documents (e.g., shared access agreement, Covenant, Conditions & Restrictions, etc.) which ensure that utilities, access, parking, landscape areas, and drainage (including private catch basins) will be commonly shared and maintained.

City Standard Condition 3.17 (Emergency Access Plan)

Prior to the issuance of the first building permit, the applicant shall submit and have approved by the Chief of Police an Emergency Access Plan, which identifies and locates all Knox Boxes, Knox key switches, and Click2Enter radio access control receivers per the Irvine Uniform Security Code requirements. Said plan shall be incorporated into the plan set approved for building permits.

City Standard Condition 3.27 (Construction Phasing Plan)

Prior to the issuance of building permits, the applicant shall submit a proposed Construction Phasing Pan for review and approval by the Chief Building Official. The following is the list of specific items that should be provided in Construction Phasing Plan.

- An Exhibit showing:
  - Separation zones between Construction areas and Public areas, as required to maintain occupied areas safe based on projected construction schedules and absorption rates.
  - Laydown areas.
  - Carpool parking areas.
  - Delivery procedures and approved delivery areas.
  - Orange County Fire Authority (OCFA) no parking zones.
  - If the project is part of a master development then information about all the other projects shall also be included in the exhibit for detailed safety evaluation. In addition, the master developer shall identify one individual responsible for the oversight of the entire project including implementation of all the phasing requirements.

Should the phasing plan change during construction, a revised phasing shall be submitted to the Chief Building Official for review and approval prior to MEPS inspection. Construction Site Security requirements shall be in place at all the times during construction. This condition shall not apply to single-phase projects.

City Standard Condition 4.9 (Emergency Access Inspection)

Prior to authorization to use, occupy, and/or operate, the applicant shall arrange for and have passed an inspection, to be performed by the Irvine Police Department and the OCFA, to ensure compliance with the Emergency Access Plan requirements. The inspector shall verify test acceptance and locations of all Knox boxes, key switches and Click2Enter devices as depicted on the approved plan.

City Standard Condition 6.4 (Privacy Gates–Vehicle Stacking)

If the Director of Public Works and Transportation determines that the operation of the residential privacy gates approved with this application is negatively affecting the flow of traffic on an adjacent public roadway, the property owner or homeowners association may be required to submit a plan to the Director of Community Development that identifies specific measures to resolve these problems. The plan shall be submitted within 30 days of notification by the Public Works and Transportation Department and shall be reviewed and approved by the Director of Community Development in consultation with the Director of Public Works and Transportation. The property owner or homeowners association shall be required, at its sole expense, to implement any modifications required by the plan within 30 days of written notice from the Director of Community Development to implement such measures, or in such time frame as directed by the Director of Community Development in consultation with the Director of Public Works and Transportation.

e. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the proposed project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the proposed project and will help to reduce and avoid potential impacts related to transportation:

- PPP TRA-1 Compliance with Municipal Code Title 6 (Public Works), Division 3 (Transportation), Chapter 6 (Trip Reduction Facilities)
- PPP TRA-2: Compliance with Standard Condition 6.4 (Privacy Gates–Vehicle Stacking)
- PPP TRA-3: Compliance with Standard Condition 3.17 (Emergency Access Plan)
- PPP TRA-4: Compliance with Standard Condition 4.9 (Emergency Access Inspection)
- PPP TRA-5: Compliance with Standard Condition 3.27 (Construction Phasing Plan)

Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed goals, objectives, policies, and implementation actions are applicable to the analysis of transportation and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Circulation Element:

Goal 1: To facilitate the planning, provision, and maintenance of a well-integrated roadway network that effectively meets the anticipated demands of both local communities and the broader regional transportation system.

Objective C-1. Plan, provide, and maintain an integrated vehicular circulation system to accommodate projected local and regional needs.

- Policy (a): Use the Circulation and Land Use Elements to determine roadway sizing and phasing while striving to maintain a balanced transportation system.

- **Policy (b):** Use Figure B-1, Master Plan of Arterial Highways (presented as Figure 4.13-1), for the purpose of detailed planning of the circulation network. Calls for the City to develop, on an incremental basis, a vehicular circulation system responding to local and regional access requirements consistent with the City's Level of Service (LOS) Standards. Future development under the project would be required to demonstrate compliance with this policy through preparation and approval of a traffic study demonstrating that vehicle trips generated would not cause intersection and roadway segment operations to drop below LOS E. Policies (d) through (r) in the updated Circulation Element provide additional guidance to improve the City's roadway system. Future site-specific development under the project would be required to provide the trip reduction support measures consistent with the requirements of Municipal Code Title 6 (Public Works), Division 3 (Transportation), Chapter 6 (Trip Reduction Facilities).

Goal 2: To design a circulation system for roadways that adheres to the highest standards of transportation engineering safety while taking into account the surrounding land uses and their sensitivities.

Objective C-2. Develop a vehicular circulation system consistent with high standards for transportation engineering safety and with sensitivity to adjoining land uses.

- **Policy (a):** Design alignment, intersections and classification of roadways to facilitate the neighboring land uses while minimizing noise, emissions, and visual impacts of the proposed development.

- **Policy (d):** Ensure roadways are designed to complement other circulation networks and minimize the need to complete major reconstruction on the existing network.

- **Policy (e):** Ensure safe and efficient traffic flow while providing adequate and convenient access to retail sites.

Goal 3: To establish a pedestrian circulation system that supports and promotes walking as a viable mode of transportation within the community.

Objective C-3. Pedestrian Circulation. Establish a pedestrian circulation system to support and encourage walking as a mode of transportation. The following policies support Objective C-3:

- **Policy (a)**: Link residences with schools, job centers, shopping centers, parks and other public facilities/destination centers, both within a planning area and to adjacent planning areas, through an internal system consisting of pedestrian facilities (e.g., sidewalks and/or shared-use paths).
- **Policy (b)**: Encourage proposed developments to provide safe, convenient, and direct pedestrian access to surrounding land uses, on-street parking, and transit stops, as applicable, emphasizing active transportation and supporting the Complete Streets Act.
- **Policy (c)**: Design and locate land uses that facilitate access by non-automotive means (e.g., walking and/or bicycling).

- Policy (d): Continue to implement the existing sidewalk improvement program and enhance standards for improved active transportation and connectivity to create an interconnected system of pedestrian-friendly boulevards, avenues, and streets.

Goal 4: To develop and maintain a comprehensive bicycle network that encourages increased bicycle usage for both commuting and recreational purposes.

Objective C-4: Plan, provide, and maintain a comprehensive bicycle network that encourages increased use of bicycles for commuters and recreational purposes. The following policies support Objective C-4:

- Policy (a): Encourage proposed developments to provide connectivity to the existing bicycle circulation network, both on- and off-street, and within the proposed planning area. Such trails shall be linked to the system shown in Figure B-4. The on-street and off-street trails shall be designed for the safety of all users per the Complete Streets initiative, using design guidelines from the Active Transportation Plan which may include buffered bikeways and/ or other means of protected bikeways.
- Policy (b): Accommodate cyclists of all levels of experience and provide for both recreation and functional transportation when designing shared-use pathways.
- Policy (c): Enhance the existing bicycle network to improve connectivity between residential areas, employment areas, schools, parks, community facilities, commercial centers, and transit facilities.
- Policy (d): Encourage new developments to include detailed circulation plans for pedestrian and bicycle trails providing access to the subject property, adjacent properties, and community facilities, as applicable.
- Policy (e): Bicycle trip destinations, including community facilities, commercial centers, and transit facilities, shall be equipped with appropriate bicycle facilities/amenities including, but not limited to, the provision of bike racks, shade trees, drinking fountains, benches and showers, where feasible.
- Policy (f): Encourage grade-separated crossings for pedestrians and cyclists, wherever feasible, to increase safety and efficiency.
- Policy (g): Encourage off-street bicycle trails and shared-use paths in areas with minimal cross traffic, such as open space spine, flood control and utility easements, where feasible.
- Policy (h): Support programs and engage the community to increase public awareness of bicycle safety and bicycling as an alternative mode of transportation.
- Policy (i): Incorporate, where appropriate, school and park locations within the design of the bicycle system.

Goal 6: To plan, develop, and maintain a comprehensive trail network that caters to the needs of both equestrian riders and hikers, ensuring accessibility and enjoyment for all.

Objective C-6. Plan, develop, and maintain a trail network to support facilities that support the needs of equestrian riders and hikers. The following policies support Objective C-5:

- **Policy (a)**: Phase expansion and improve the existing trail network consistent with the City's growth, incorporating the needs of the equestrian and hiking community.
- **Policy (b)**: Continue to maintain, support, and evolve the equestrian and hiking trails as illustrated on Figure B-5, Trails Network, and in areas identified as permanent open space, scenic highway corridors, agricultural edges, public utility rights of way and easements, flood control channels, and areas designated for rural and estate density.
- **Policy (c)**: Encourage the development of trail facilities that minimize impacts on existing or planned development and wildlife preservation areas.
- **Policy (d)**: Continue to provide and maintain equestrian staging areas, rest stops, and boarding centers at locations which provide easy access to the trail system and are away from high-density urban areas.
- **Policy (e)**: Continue to encourage developer dedication and final improvements to the trail alignments.
- **Policy (f)**: Monitor and seek funds for trail system development and maintenance from all available sources.

Goal 7: Foster collaboration and coordination with regional transportation agencies to improve connectivity, accessibility, and efficiency of transportation networks serving Irvine and neighboring communities.
Objective C-7 Maintain a public transit system for trips within the City and to/from adjacent areas.

- **Policy (a):** Plan residential, commercial, and industrial areas to enable effective use of public transit.
- **Policy (b):** Consider designating excess right-of-way areas on arterial highways for potential public transit corridors or for emergency parking lanes.
- **Policy (c):** Continue to expand the bus service network within the City and regionally as an alternative mode of transportation through the following:
  - Pursue additional transit service to and within the City e.g., increase frequency and/or provide service to new developments.
  - Provide infrastructure at transit stops for convenience and safety (e.g., proper lighting, covered shelter and safe crossings) to encourage commuting to work.
  - Incorporate public art and green infrastructure to enhance existing and future transit stops.
  - Continue to expand the bus service network within the City and regionally as an alternative mode of transportation.
- **Policy (d):** Continue planning efforts as necessary to further develop the advanced transit network providing connection to all local and activity center systems encompassing the City and its sphere of influence.
- **Policy (e)** Coordinate the development of intra-county and regional transit stops with Irvine's intracity transit system.

- **Policy (f):** Encourage the short-term use of rights of way reserved for the various circulation systems for other uses, such as recreational open space.
- **Policy (g):** Consider the use of railroad rights of way as transportation corridors.
- **Policy (h):** Explore the use of technology to communicate transit patterns, promote safety, and attract passengers.
- **Policy (i):** Consider implementing and supporting proposed guidelines for near- and long-term improvements to transit infrastructure within the City limits.

4.13.3 Significance Determination Thresholds

Thresholds used to evaluate impacts to transportation are based on applicable criteria in the CEQA Guidelines (California Code of Regulations Sections 15000-15387), Appendix G. A significant impact would occur if the project would:

1) Conflict with a plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;

2) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);

3) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or

4) Result in inadequate emergency access.

4.13.4 Methodology

The analysis included in this section is based on the VMT Traffic Study evaluated project impacts associated with additional residential and non-residential land uses that may occur under the project in accordance with the City's Traffic Study Guidelines and consistent with Section 15064.3 of the CEQA Guidelines (Appendix G).

4.13.5 Topic 1: Circulation System

Would the project conflict with a plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

4.13.5.1 Impact Analysis

a. Roadway System

Implementation of the project would allow for the future development of new residential uses associated with the proposed General Plan Update (57,656 residential units), the development of nonresidential uses that are also currently permitted under the existing General Plan, and nonresidential uses associated with the Great Park area, and the extension of Ada roadway. Increased

development within the City is likely to increase the use of the City's roadway network.[1] In order to meet this anticipated increase in demand, the updated Circulation Element includes the following objectives and policies that would be consistent with the planning goals established by OCTA in their LRTP and would improve the City's roadway network. The extension of Ada from its current terminus in the parking lot of the Irvine train station south of the Southern California Railroad Authority (SCRRA) railroad tracks to extend approximately one-quarter of a mile north under the railroad tracks to meet the future Marine Way extension north of the railroad tracks is proposed with the project. The Ada roadway extension between the Irvine train station and Marine Way provides vehicle, pedestrian, and other multi-modal connectivity to support the residential uses. The Ada roadway extension will be included in the updated.

The Circulation Element which includes objectives and policies aimed at improving the existing roadway network. For example, Objective C-1 aims to improve an integrated roadway network that accommodates existing and projected local and regional needs, and Objective C-2 aims to develop a high-quality vehicle circulation system. Supporting policies are aimed at designing roadways to be safe and efficient, while minimizing environmental impacts. The proposed project would also be consistent with the Complete Streets Act because the project aims to prioritize multimodal transportation options, with a specific emphasis on reducing vehicle miles travelled through bikeway and/or pedestrian infrastructure improvements. Therefore, the project would not conflict with a plan, ordinance, or policy addressing roadway circulation, and impacts would be less than significant.

b. Public Transit System

The proposed project would allow for the future development of new residential uses associated with the proposed General Plan Update (57,656 residential units), the development of nonresidential uses that are also currently permitted under the existing General Plan, and nonresidential uses associated with the Great Park area, and the extension of Ada roadway. Increased development within the City is likely to increase demand for public transportation. In order to meet this anticipated increase in demand, the updated Circulation Element includes objectives and policies related to public transit. Planned development associated with the project are expected to utilize the public transit system, and the project supports this by planning development near the Irvine Transit Station, IBC Proposed concentration of future development near the Irvine Transit Station within the Spectrum (adjacent the Focus Area 2 and 3),and Tustin Transit Station near Focus Area 1 which is served by the iShuttle-citywide transit provided by OCTA. For example, Objective C-6 encourages continued coordination with transit authorities to maintain the public transit system. Supporting policies aim to encourage and promote expanded transit service within the City.

Future site-specific development under the project may be required to provide bus bays, bus stops and bus shelters adjacent to roads and streets traversing or bounding the development, as requested

[1]As a separate policy requirement, the City conducted an LOS analysis for the proposed project, which resulted in recommended infrastructure improvements. Specific projects associated with recommended improvements are not proposed as part of the project and have not yet been identified. However, future infrastructure projects would be required to undergo a separate environmental review process and would likely be identified in the City's CIP at the time they are proposed and details on such projects are available.

by the City consistent with the requirements of Municipal Code Title 6 (Public Works), Division 3 (Transportation), Chapter 6 (Trip Reduction Facilities) (PPP TRA-1).

In summary, the proposed project prioritizes multimodal transportation systems, supports first/last mile connectivity to transit, supports complete street improvements, which is consistent with regional transportation planning efforts. Therefore, the project would not conflict with a plan, ordinance, or policy addressing pedestrian and public transportation, and impacts would be less than significant.

c. Pedestrian and Bicycle System

The proposed project would allow for the future development of new residential uses associated with the proposed General Plan Update (57,656 residential units), the development of nonresidential uses that are also currently permitted under the existing General Plan, and nonresidential uses associated with the Great Park area, and the extension of Ada roadway. Because implementation of the project would increase the amount of housing within the City, the project is also anticipated to increase demand for pedestrian and multi-modal travel opportunities including bicycle and other wheeled travel opportunities. In order to meet this anticipated increase in demand, the updated Circulation Element includes several objectives and policies that would support various forms of pedestrian and bicycle travel. For example, Objective C-3 aims to establish a pedestrian circulation system that supports and encourages walking as a mode of transportation, while Objective C-4 aims to plan, provide, and maintain a comprehensive bicycle network that encourages increased use of bicycles for commutes and recreational purposes. Supporting policies aim to link pedestrian and bicycle infrastructure with residences, schools, job centers, retail, parks, and other public facilities.

In summary, the proposed project incorporates policies that support pedestrian and bicycle facilities. These include prioritizing multimodal systems, maintaining a network of complete streets to provide mobility opportunities for all users, promoting development of mixed-use projects (particularly within proximity villages within the three Focus Areas) to create pedestrian- and bicyclist-friendly areas, maintaining the existing bicycle and pedestrian network, and promoting pedestrian and bicyclist safety. Therefore, the project would not conflict with a plan, ordinance, or policy addressing pedestrian and bicycle travel, and impacts would be less than significant.

Therefore, the project would not conflict with a plan, ordinance, or policy addressing airplane travel, and impacts would be less than significant.

d. Conclusion

Implementation of the proposed project would increase the demand for public transit, bicycle, pedestrian, and airport facilities, particularly within the three Focus Areas where most of the planned residential units are located. This increased demand would require improvements and expansions to the existing circulation system. The proposed project includes a number of goals, policies, objectives, and implementation actions aimed at supporting transit, bicycles, pedestrians, and airports within and adjacent to the City. These are consistent with regional and local planning efforts supporting these modes of travel.

4.13.5.2 Significance of Impacts

The project would not conflict with a plan, ordinance, or policy addressing the circulation system, and impacts would be less than significant.

4.13.5.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.13.6 Topic 2: Vehicle Miles Traveled

Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

4.13.6.1 Impact Analysis

CEQA Guidelines Section 15064.3 requires that the determination of significance for transportation impacts be based on VMT instead of a congestion metric such as LOS. The change in the focus of transportation analysis is the result of SB 743, as detailed in 4.13.2.1c above. The VMT Traffic Study evaluated project impacts associated with additional residential units proposed project, non-residential land uses within the Great Park,[2] and the Ada extension that may occur under the project in accordance with the City's Traffic Study Guidelines and consistent with Section 15064.3 of the CEQA Guidelines (Appendix G). The adopted methodology in the Traffic Study Guidelines identifies thresholds of significance for residential and non-residential projects based on a 15 percent reduction of existing countywide average VMT per population or employment. Similarly, the threshold of significance applied for the Citywide plan is based on a 15 percent reduction of existing countywide average VMT per service population of which service population is the sum of the countywide population and employment. This analysis utilized a VMT per service population metric for this evaluation.

Table 4.13-1 identifies the existing residential VMT per resident, the non-residential VMT per employee, as well as the VMT per service population with their respective significance thresholds using the City's VMT traffic model. The residential VMT significance threshold is based on the countywide population VMT divided by the countywide population. The non-residential VMT significance threshold is based on the countywide commute and other (i.e., customer and client) VMT trips divided by the number of countywide employees. The VMT per service population threshold is based on the total countywide VMT divided by the summation of the total countywide population and countywide employees. If the project VMT rate exceeds the significance threshold for VMT per service population (24.06), then the project would have a significant impact.

[2]Nonresidential uses in all other areas of the City would be permitted at the same intensities identified in the City's currently adopted General Plan.

Table 4.13-1 VMT Rate Threshold Goals for Projects within the City			
VMT Metric	Existing	Threshold Goal (15 Percent Reduction)	VMT Metric
VMT per resident	17.50	14.88	VMT per resident
VMT per employee	48.66	41.36	VMT per employee
VMT per service population	28.30	24.06	VMT per service population
SOURCE: Appendix G.			

Consistent with the 2021-2029 Housing Element, the project would update the General Plan Land Use Element to support the City's RHNA allocation of 23,610 units. The 6th Cyle 2021-2029 Housing Element (2021-2029 Housing Element) identified adequate sites to accommodate 57,656 new residential units to ensure consistency with housing statute, including no-net loss and affirmatively furthering fair housing requirements. The City's existing General Plan has a significant amount of unbuilt non-residential square footage available throughout the City's Planning Areas identified in the 2021-2029 Housing Element site inventory that would remain available for development as part of the proposed project

The proposed project would accommodate the City's RHNA requirement and implement the 2021-2029 Housing Element through the introduction of additional residential and/or mixed-use development throughout the City using residential and residential mixed-use overlay zones that would allow greater flexibility for property owners and developers proposing to develop affordable housing projects. The overlays would promote higher density residential and mixed-use in three Focus Areas, targeted retail centers, conversion of hotel/motel sites, and on religious and school sites. Most of the future residential growth would occur in the three focus areas that are most suited for new growth and development as they are located near existing job centers and are along major travel corridors with access to existing and future public transit opportunities. Focus Area 1 consists of the Greater IBC and would be allowed a maximum of 15,000 base units under the proposed project. Focus Area 2 would consist of the Greater Spectrum Area. The project would increase the residential intensity in Focus Area 2 by an additional 26,607 residential units. Focus Area 3 would consist of the Great Park Neighborhood Transit Village. The project would increase the residential intensity in Focus Area 3 with an additional 5,252 residential units. Refer to Chapter 3.0 for further details related to development proposed as part of the project.

The project would also accommodate the remaining 8,536 residential units required by the City's RHNA assessment outside of the aforementioned focus areas throughout the City. These units would be accommodated using the same proposed residential overlay.

Overall, new residential units proposed as part of the project would be developed under a proximity village approach, building upon the City's current approach to master planning in the City. The primary intent of the proximity village approach would ensure that future development is balanced with a mix of uses including neighborhood-serving non-residential square footage (retail, restaurants, medical offices, etc.) and parks and open space uses that are connected through multi-modal transportation and complete street strategies.

Non-residential land uses: In addition to the RHNA residential component, the project includes additional non-residential land uses in the Irvine Great Park (Great Park). Phase 1 of the Great Park Framework Plan is in the baseline (no build condition) and the remaining land uses supporting the buildout of the Great Park Framework (200 acres in total) are included as part of the project. Phase 2 (or the remaining buildout of the Great Park) includes the following: a botanical garden, a veteran's memorial garden, a library, a discovery center, two museums, a 65-acre central park area, an accessory restaurant use, an aquatic center, an aquatic stadium, an all-wheel park, and pickleball courts.

Transportation Improvements: The project also includes the extension of Ada from its current terminus in the parking lot of the Irvine train station south of the SCRRA railroad tracks to extend north under the railroad tracks to meet the future Marine Way extension north of the railroad tracks. The Ada roadway extension between the Irvine train station and Marine Way provides multi-modal connectivity to support the residential uses.

Table 4.13-2 presents the results of the VMT analysis comparing buildout of the Existing General Plan (or a No Project Scenario) to buildout of the project.[3] As shown in Table 4.13-2, both scenarios exceed the City's VMT per service population threshold of 24.06 VMT per service population. Buildout of the General Plan would result in an average VMT per service population value of 28.97, which would require a 17.0 percent reduction in VMT to meet the significance threshold. Buildout of the project would generate a VMT per service population value of 24.94, which would require a 3.5 percent reduction in VMT to meet the significance threshold. Based on these results, the project would reduce VMT compared to buildout of the adopted General Plan (or a No Project Scenario). This reduction is due to the fact the City currently is a major employment center with a high jobs-to-population ratio.[4] The City has more jobs than can be sustained by the City's own population. Many of the jobs are in relatively high-paying professions, and employees are more likely and able to afford to make longer distance commutes from less dense residential areas within the City, as well as residential areas outside the city. While some of this long-distance travel may occur on freeways outside the city, a large proportion of the VMT will end up on city streets and intersections. Shifting towards a more balanced jobs/population ratio as would occur under the project can be expected to improve VMT metrics.

[3] A conservative approach was used for the preparation of the VMT impact analysis. VMT impact identification and resulting mitigation is based on a non-cumulative approach that identifies more mitigation requirement than the cumulative condition."

[4] The City currently has roughly double the number of jobs per population as the rest of Orange County (1.01 vs. 0.49).

Table 4.13-2 VMT Analysis Results Summary							
Scenario	Total VMT (miles)	Total Population	Total Employees	Service Population	VMT Per Service Population	VMT Per Service Rate Above Threshold	Percent VMT Reduction Needed
Adopted General Plan	20,426,702	368,261	336,730	704,991	28.97	4.98	17.0
Project	21,337,558	517,654	337,910	855m564	24,94	0.88	3.5
SOURCE: Appendix G.							

4.13.6.2 Significance of Impacts

Buildout of the existing adopted General Plan would result in an average VMT per service population value of 28.97, which would require a 17.0 percent reduction in VMT to meet the significance threshold. Buildout of the project would generate a VMT per service population value of 24.94, which would require a 3.5 percent reduction in VMT to meet the significance threshold. Based on these results, the project would reduce VMT compared to buildout of the existing adopted General Plan. Nonetheless, the project would still exceed the VMT per service population threshold and would require a 3.5 percent reduction in VMT to meet the significance threshold. This would be considered a significant impact. Therefore, projected VMT generated under buildout of the project would be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). This would be considered a potentially significant impact.

4.13.6.3 Mitigation

The City's Traffic Study Guidelines contain a two-tier system for the VMT Mitigation Program:

TRA-1: On-Site Infrastructure

The City of Irvine Director of Community Development, or designee, shall require applicants for future proposed projects that exceed VMT thresholds to incorporate on-site connectivity into site design in order to achieve a reduction of 2.5 percent VMT rate. Site design measures to achieve this VMT reduction would include promotion of bicycle activity (i.e., bike facilities) and pedestrian walkability (i.e., connected sidewalks from building entrances to public streets).

TRA-2 On-Site Transportation Demand Management

The City of Irvine Director of Community Development, or designee, shall require applicants for future proposed projects that exceed VMT thresholds to incorporate a TDM program to achieve a reduction of up to 5 percent VMT rate. While TDM programs in the past have typically focused on employer sites, they can also be implemented to new residential developments with measures such as bike share or car share programs.

4.13.6.4 Significance of Impacts after Mitigation

Implementation of the mitigation measures TRA-1 and TRA-2 described above would potentially reduce impacts related to VMT to a level less than significant. However, as no specific development projects have been identified at this time, it is not possible to ensure that every future project could fully mitigate potentially significant impacts. Therefore, impacts related to VMT would remain significant and unavoidable at this program level of review.

4.13.7 Topic 3: Hazards Due to a Design Feature

Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

4.13.7.1 Impact Analysis

Buildout of the proposed project would involve the alteration, intensification, and redistribution of residential land uses in the City. Specifically, buildout of the project would allow for the future development of new residential uses associated with the proposed General Plan Update (57,656 residential units), the development of nonresidential uses that are also currently permitted under the existing General Plan, and nonresidential uses associated with the Great Park area, and the extension of Ada roadway.

The General Plan Update includes several policies aimed at improving the City's circulation network that are aimed at reducing existing and potential transportation hazards. Future site-specific development under the project would be subject to the appropriate entitlement application review process (Conditional Use Permit or Master Plan) as well as design and engineering review to ensure roads and access is configured consistent with established roadway design standards. As described in Section 4.13.5.1a above, update Circulation Element Objective C-2 seeks to "Develop a circulation system consistent with high standards for transportation engineering safety and with sensitivity to adjoining land uses." Furthermore, Policy (i) encourages that "intersections and public right of ways to be designed to provide adequate and safe access for all users including pedestrians, bicyclists, and motorists of all ages and abilities." Furthermore, future site-specific development under the project (including residential projects, Great Park improvements, and the Ada extension) would be subject to both a design and engineering review (and likely a review by the Orange County Fire Authority) to ensure roads and access is configured consistent with established roadway design standards. Future projects would also be required to comply Standard Condition 6.4, (PPP TRA-2) which outlines procedures to be followed should vehicle stacking result from the operation of residential privacy gates associated with residential development projects. Therefore, implementation of the project would not result in hazardous conditions, create conflicting uses, or cause a detriment to emergency vehicle access.

4.13.7.2 Significance of Impacts

The project would not substantially increase hazards due to a geometric design feature of incompatible uses, and impacts would be less than significant.

4.13.7.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.13.8 Topic 4: Emergency Access

Would the project result in inadequate emergency access?

4.13.8.1 Impact Analysis

Future site-specific development under the project allow for the future development of new residential uses associated with the proposed General Plan Update (57,656 residential units), the development of nonresidential uses at the same intensities permitted under the existing General Plan, nonresidential uses associated with the Great Park area, and the extension of Ada roadway.. Future projects would be subject to the City's design requirements regarding emergency access per Planning Commission Resolution No. 09.2968. City Standard Condition 3.17 (Emergency Access Plan) requires an applicant to submit and have approved by the Chief of Police an Emergency Access Plan, which identifies and locates all Knox Boxes, Knox key switches, and Click2Enter radio access control receivers per the Irvine Uniform Security Code requirements. Similarly, City Standard Condition 4.9 (Emergency Access Inspection) requires an applicant to pass an inspection, to be performed by the Police Department and the Orange County Fire Authority, to ensure compliance with the Emergency Access Plan requirements. The inspector shall verify test acceptance and locations of all Knox boxes, key switches and Click2Enter devices as depicted on the approved plan. Prior to construction, future development would prepare a construction phasing plan (PPP TRA-5) that would include measures to maintain emergency access.

4.13.8.2 Significance of Impacts

The project would not result in inadequate emergency access, and impacts would be less than significant. With compliance with the above PPPs, impacts would be less than significant.

4.13.8.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.13.9 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for hazards and transportation. The study area for the assessment of cumulative impacts related to transportation is the City. The nature of the project is also inherently cumulative as it establishes a long-term plan that would improve the circulation network through project buildout in 2045. This would include implementing objective and policies described above that would improve the circulation network, ensure future projects would

not introduce hazards onto the circulation network, and ensure future development and redevelopment would not interfere with emergency access.

Cumulative transportation impacts associated with buildout of the project were evaluated in the VMT Traffic Study (Appendix G) that was prepared for the project. The analysis within that study assumed a cumulative scenario that included buildout of the proposed General Plan, cumulative projects (cumulative projects in the City and residential uses associated with neighboring jurisdictions' RHNA requirements) as well as buildout of the Great Park area and the extension of Ada.

The Proposed Project Plus Cumulative Scenario would generate a VMT per service population of 24.88. Therefore, there would be a significant impact under CEQA that would require a 3.3 percent reduction in VMT to meet this threshold. Although mitigation as described in Section 4.13.6.3 above would be feasible under the cumulative alternative, no specific projects have been identified. Therefore, cumulative impacts related to VMT would remain significant and unavoidable. Therefore, projected VMT generated under buildout of the project would be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and the project would result in cumulative impacts related to VMT.

4.14 Utilities and Service System

This section evaluates potential impacts related to public utilities (storm drain, wastewater, water, water supply, solid waste disposal, electrical power, natural gas, and telecommunications) that could result from implementation of the project. The analysis area covers the entirety of the city of Irvine (City). This analysis relies upon the Proposed Conditions Infrastructure Report for Water, Sewer, Storm Drainage, and Water Quality prepared by Fuscoe Engineering, Inc. (Appendix I), impacts associate with natural gas, energy, and telecommunications facilities, and solid waste have been assessed at using publicly available data.

4.14.1 Existing Conditions

4.14.1.1 Water Infrastructure and Supply

a. Water System

The City's existing potable water system is fully encompassed within the potable and non-potable water service area of the Irvine Ranch Water District (IRWD). IRWD also services portions of the surrounding cities of Tustin, Santa Ana, Orange, Costa Mesa, Lake Forest, Newport Beach, and unincorporated areas of the County of Orange. Altogether the service area is approximately 181 square miles with the City and its sphere of influence accounting for approximately 41 percent (74 square miles) of IRWDs service area.

IRWD serves about 20 percent of Orange County, and has facilities worth over $1 billion, including more than 1,500 miles of drinking water pipelines, more than 900 miles of sewer pipes, 53 reservoirs, and two large water recycling facilities. Distribution pipelines within the City range in diameter between 1-inch and 72-inches and have a total length of approximately 78 miles. Most of the water pipes throughout the City are 8-inch pipes and most of the pipelines were constructed in the 1970s through the 2000s.

b. Water Demand

The water demands generated within the City and its three Focus Areas are representative of a portion of all IRWD's customer water use, water demand forecasting. All connections throughout IRWDs service area are metered and IRWD employs water use factors that assign water demands to various land use types and then aggregates these demands. The water use factors are based on average water use and incorporate the effect of IRWD's tiered-rate conservation pricing (budget-based rates). During 2020, IRWD reported that the top three water users were multi-family residential units (44 percent of total), commercial uses (13 percent of total), and single-family residential units (12 percent of total). Table 4.14-1 presents additional data regarding IRWD water demand in 2020.

Table 4.14-1 IRWD 2020 Water Demand		
Water Use Type	Level of Treatment When Delivered	Volume (acre-feet)
Multi-Family	Drinking Water	24,955
Commercial	Drinking Water	7,281
Single Family	Drinking Water	6,885
Industrial	Drinking Water	4,581
Landscape	Drinking Water	4,211
Institutional/Governmental	Drinking Water	1,454
Other Potable	Drinking Water	238
Agricultural Irrigation	Drinking Water	117
Agricultural Irrigation	Raw Water	599
Industrial	Raw Water	441
Landscape*	Raw Water	1,965
Agricultural Irrigation*	Raw Water	461
Other Non-Potable*	Raw Water	96
Commercial*	Raw Water	39
Industrial*	Raw Water	2
Losses**	Drinking Water	3,049
TOTAL		56,374
SOURCE: IRWD 2020 UWMP - Table 4-1 Retail: Demands for Potable and Non-Potable Water Demands – Actual *Supplement to Recycled Water system **Distribution System Real Losses		

As shown in Table 4.14-1, IRWD delivered 56,374 acre-feet (AF) of potable and non-potable water with residential demands (multifamily and single family) accounting for 57 percent of water demand within the service area. In comparison to previous water years, water use in 2020 was significantly lower than the 71,086 AF that IRWD estimated in the 2015 Urban Water Management Plan (UWMP). Historically, water demands in the IRWD service area have decreased over time due to conservation campaigns, tiered and allocation-based rate structures, and advances in water savings technologies. IRWD's three largest water users in 2015 were single family homes (24,024 AF), commercial uses (7,856 AF), and multifamily units (6,286 AF). These decreases in residential and commercial driven water use trends are consistent with conservation efforts and land use/development throughout IRWDs service area.

c. Existing Water Supply

IRWD's water resource portfolio consists of imported water, local groundwater, recycled water, and local surface water. Treated and untreated imported water is purchased from the Metropolitan Water District of Southern California (Metropolitan or MWD) through the Municipal Water District of Orange County (MWDOC). Potable and non-potable groundwater supplies are extracted from both the Main Orange County Groundwater Basin and the Irvine Sub-Basin. Recycled water production at IRWD's Michelson and Los Alisos Water Recycling Plants are primary supplies to IRWD's non-potable

distribution system. Table 4.14-2 presents the sources for IRWD potable and non-potable water in 2020.

Table 4.14-2
IRWD 2020 Water Supply

Water Supply	Additional Details	Actual Volume (AF)
Purchased or Imported Water	MWD	12,861
Purchased or Imported Water	MWD (SAC)	1,168
Surface water (not desalinated)	Irvine Lake	6,600
Groundwater (not desalinated)		37,990
Groundwater (not desalinated)	Non-Potable	4,437
Recycled Water	MWRP & LAWRP	24,627
TOTAL		87,683

SOURCE: IRWD 2020 Urban Water Management Plan, Table 6-8 Retail: Water Supplies — Actual

IRWD's water supply system includes imported water from MWDOC (16 percent of total), local groundwater and surface water supplies (56 percent of total), and recycled water (28 percent of total). The MWDOC is a wholesale importer and member agency of the Metropolitan Water District (MWD) and is entitled to receive water from the available sources of MWD, including Colorado River and Northern California surface water. IRWD also has contracts with Kern County to store up to 126,000 AF of groundwater storage and extract up to 28,750 AF per year during dry years.

Groundwater

The City and its sphere of influence are located within the Coastal Plain of Orange County groundwater basin, also known as Basin 8-1. Under the Sustainable Groundwater Management Act (SGMA), the Basin 8-1 is classified as a medium priority basin, due to heavy reliance on the Basin's groundwater as a source of water supply. The IRWD's local surface water supplies are the drainage tributary areas to the Irvine Lake and Harding Canyon Reservoir. On average, about 4,000 acre-feet per year (AFY) is captured for IRWD's demands. Water supplies available from the Harding Canyon are often limited due to dry weather conditions. Recycled water meets about 33 percent of IRWD's (non-potable; agricultural irrigation, landscape, golf course, commercial, and industrial uses) water demands. In 2020, approximately 24,626 AF of wastewater was recycled within the service area from the Michelson Water Recycling Plant (MWRP) and Los Alisos Water Recycling Plant (LAWRP). In the case there isn't sufficient supplies of treated wastewater for use from the MWRP and LAWRP, supplemental untreated imported water can be used.

IRWD operates the Peters Canyon Channel Water Capture and Reuse Pipeline Project which captures dry weather runoff from three storm drain diversion facilities prior to flows entering Peters Canyon Channel. The dry weather runoff is then delivered to Orange County Sanitation District (OCSD) for treatment and subsequent discharge to Orange County Water District's Groundwater Replenishment System for eventual groundwater recharge. There are currently no commitments for purchase of desalination water by IRWD.

Recycled Water

Water recycling is an essential part of IRWD's water supply portfolio, as it reduces the demand for high-quality potable drinking water. IRWD's recycled water program began with the focus of providing tertiary treated Title 22 recycled water to supply agricultural irrigation demands. Today, new developments must install dual plumbing that allows recycled water to be used for landscaping, toilets, and other uses not requiring potable water. IRWD recycled water meets the standards as set forth in Title 22, California Code of Regulations, for uses, including landscape irrigation, toilet flushing, cooling towers, industrial processes, composting, grading, and compaction.

IRWD maintains an extensive infrastructure system for recycled water. This includes a recycled water pipeline system that includes more than 500 miles of dual distribution pipelines. Water is recycled at the MWRP and LAWRP. The MWRP has a permitted tertiary treatment capacity of 28 million gallons per day (mgd) and recycles 90 percent of the plant's sewage inflow. To support the over 5,400 recycled water users, IRWD has 15 reservoirs with storage capacity of 4,536 acre-feet of recycled water.

Drinking Water Quality

IRWD strives to provide residents and business consumers with safe drinking water supplies. IRWD, OCWD, and the MWD conduct extensive testing for regulated and unregulated chemicals in their water supplies. OCWD manages the quality of the groundwater basin, MWD supplies imported treated surface water, and IRWD operates a surface water treatment plant and several ground water treatment plants.

Communities are required to adhere to stringent state regulations regarding primary and secondary drinking water standards. Primary standards are legally enforceable standards that are needed to protect public health. Secondary standards affect the color, appearance, and taste of drinking water, but are not health-related standards. Adherence to standards is measured in terms of maximum contaminant levels allowed in drinking water. Progress toward public health goals, as described below, is also required to be reported.

The EPA, the Office of Environmental Health Hazard Assessment, and the SWRCB Division of Drinking Water have set voluntary drinking water quality goals for some contaminants. The most common measure is public health goals. Water quality goals are often set at such low levels that they are not achievable in practice and are not directly measurable. Nevertheless, these goals provide useful guideposts and direction for water management practices. IRWD strives to meet public health goals, although state and federal law do not require adherence. IRWD produces an annual consumer confidence report that tracks the quality of the City's drinking water. IRWD continues to meet and/or exceed all primary and secondary drinking water standards that are required by state and federal law.

4.14.1.2 Sewer and Wastewater Infrastructure

a. Existing Sewer System

IRWD owns and operates a complex sewer collection system that stretches 963 miles to serve its current and future customers. The sewer system and drainage are defined by the physical geography of the San Diego Creek and Peters Canyon Channel. IRWD's service area is bounded on the northeast by the Santa Ana Mountains and on the south by the San Joaquin Hills. As a result of these dominant drainage features, IRWD's sewer system flows generally from northeast to southwest. The majority of the IRWD sewer system serves the City, although there are some additional service areas that fall outside the City, including portions of the Cities of Lake Forest, Newport Beach, Costa Mesa, and unincorporated areas of Orange County. A portion of wastewater generated in Newport Beach and the City is collected by trunk sewers owned, operated, and maintained by IRWD, then discharged into sewers owned and maintained by the OCSD.

As of 2018 there are 23 sewage lift stations and 12 are considered major facilities. IRWD operates and maintains 1,100 miles of sanitary sewer mains and 12 miles of force mains, spanning 181 square miles (84,000 acres) of service area in Orange County.

The system also includes 19 siphons that are used to convey wastewater flows under human-made and natural obstructions, and seven diversion structures to divert or split the upstream flows into two separate downstream pipelines. The collection consists primarily of vitrified clay pipe and polyvinyl chloride sewer mains that range from 4 to 60 inches, in addition to 32 trunk lines that are the most critical components of the sewer collection system. The ultimate destination of wastewater collected in IRWD's system include the MWRP, the Los Alisos WRP or treatment plants operated by the El Toro Water District, the Santa Margarita Water District, or the OCSD.

b. Existing Sewer Flows

Wastewater in the City travels through IRWD's collection system to the Michelson Water Reclamation Plant and Los Alisos Water Recycling Plant, where it is treated through the reclamation process for use in landscaping, agricultural irrigation, and other non-potable water uses. However, one part of the City, the Irvine Business Complex (IBC), is not within the IRWD collection system. The IBC is in the OCSD, tributary zone No. 7, and wastewater generated in the IBC flows to OCSD treatment facilities located in Fountain Valley and/or Huntington Beach.

Table 4.14-3 Existing Sewer and Wastewater Flows					
Wastewater Collection Agency	Volume Metered or Estimated?	Volume Collected (AF)	Receiving Agency	Treatment Plant	Located within IRWD Service Area?
IRWD[1]	Metered	22,575	IRWD	MWRP	Yes
IRWD	Metered	3,760	IRWD	LAWRP[2]	Yes
OCSD	Metered	7,568	OCSD	OCSD	Yes
IRWD	Estimated	112	SMWD	Chiquita Water Reclamation Plant	No
TOTAL		34,015			
SOURCE: IRWD 2020 Urban Water Management Plan – Table 6-2 Retail: Wastewater Collected Within Service Area in 2020 Includes 1.09 mgd from outside service area 7 (SA-7). Includes English Canyon flows (outside UWMP service area).					

Overall, the system is very highly managed and is in relatively "young health" by sewer system standards. In addition, when specific plans or major projects are processed (over 400 residential units or equivalent mixed-use projects with similar sewer demands), IRWD requires subarea master plans that identify projected water and sewer demands, required sewer and water infrastructure, and conformance with the sewer collection system master plan. This process enables IRWD to manage the sewer and water systems in a comprehensive manner.

4.14.1.3 Storm Drainage

a. Existing Drainage System

Figure 4.8-2 in Section 4.8.1.3 above presents the storm drain system within the City. The local storm drain system is owned by the City and maintained by the City's Public Works and Transportation Department. The regional flood control system is owned and maintained by the Orange County Public Works Department (OCPW). Lines typically range in size from 18 to 60 inches (with some up to 96 inches), with the local drainage system consisting of the smaller diameter pipes and the larger flood control facilities consisting of trapezoidal channels or riverine systems. Drainage facilities are typically either RCP pipe or box culverts to convey stormwater. Local storm drain facilities are designed to accommodate 25-year flow requirements, and the regional County facilities are designed to accommodate 100-year storm events. The City conveys stormwater to OCPW regional conveyance facilities and has an ongoing monitoring and maintenance procedure to ensure the overall system functions effectively. To prevent significant flooding during storm events, OCPW and the City monitors and maintains its respective channels and storm drain systems to ensure they are conveying storm flows as designed.

- In addition, the City currently requires individual drainage analyses for new development and redevelopment to ensure conformity with the entire Citywide drainage system. New development and significant redevelopment must analyze the 25-year storm event to determine if there are any impacts to the public storm drain system. The City is located entirely within the Santa Ana Regional Water Quality Control Board (RWQCB) jurisdictional

area. The watershed and water quality issues are generally discussed in more detail in Section 4.8.

4.14.1.4 Solid Waste

Transfer and recovery facilities are owned and operated by private entities and licensed and overseen by the state. The County maintains three closed landfills in Irvine. There is a total of 21 actively maintained and monitored landfills Countywide. The County operates compost facilities at all three existing landfills.

Residential, institutional, regional commercial, and industrial solid waste is presently collected by private firms, with residential and village commercial collections franchised by the City. OC Waste & Recycling manages three active landfills conveniently located in the northern, central and southern regions of the County: Olinda Alpha Landfill is located near the City of Brea, Frank R. Bowerman Landfill is located near the City of Irvine and the Prima Deshecha Landfill is located partially in a County unincorporated area, the City of San Juan Capistrano and the City of San Clemente (Orange County Waste and Recycling 2016). A solid waste transfer station exists within Planning Area 36 (Irvine Business Complex) (City of Irvine 2005).

a. Waste Diversion

In 1989, the State Legislature passed Assembly Bill 939 (AB 939), the Integrated Waste Management Act, which required cities and county to prepare, adopt, and submit a "source reduction and recycling element" to the County that characterizes waste disposal, source reduction, recycling, composting, solid waste capacity, education/public information, funding, special waste, and household hazardous waste to ensure sufficient solid waste disposal capacity. In addition, AB 939 mandated that by January 1, 2000, each city must achieve a waste diversion goal of 50 percent through source reduction, recycling, and composting activities. In October 2011, the Legislature passed AB 341, which increased the goal of diversion of waste from landfills from 50 percent to 75 percent by 2020. In addition, AB 341 requires mandatory commercial waste recycling. Further, AB 1826 requires that businesses and multifamily residences of five or more units that generate a specified amount of organic waste to arrange recycling services for organic waste.

Senate Bill 1383 (SB 1383)

SB 1383 is known as the Short-Lived Climate Pollutants bill and is designed to significantly reduce the amount of food, food soiled paper, and green waste going into landfills.

Zero Waste Resolution

The City adopted a resolution to support Zero Waste principles on July 10, 2007. The City encourages many Zero Waste practices through residential curbside recycling, parks recycling (where City parks are equipped with special recycling receptacles for public use), recycling at City facilities, and the City's purchasing policy to buy recycled products when feasible. In addition, all City environmental programs' public education materials include the State's adopted Slogan: "Zero Waste, You Make It Happen."

Construction and Demolition Debris Recycling Ordinance

The City adopted a Construction and Demolition Debris Recycling Ordinance (07-18) in 2007. Under this ordinance, projects are required to recycle or reuse 75 percent of concrete and asphalt, and at least 65 percent of all debris generated. Covered projects include new residential and nonresidential development and most projects involving nonresidential demolition and/or renovation in accordance with requirements of the California Green Building Standards Code. Applicants for projects are required to submit a waste management plan to the City prior to obtaining permits for construction, demolition, or renovation activities covered by the ordinance.

Sustainability Community Initiative

The City adopted the Sustainable Community Initiative (Initiative Ordinance 10-11) as Initiative Measure S in 2010. The ordinance was adopted to ratify and implement policies in support of renewable energy and environmental programs for a sustainable community. It outlines the City's direction for continuing to develop and implement programs geared toward green building, renewable energy, and sustainability. For example, the City would continue to develop and implement recycling, zero waste, or other innovative onsite business programs to divert waste from landfills and also continue to develop and implement the use of native, California-friendly, and drought-tolerant landscaping.

Existing General Plan (2000)

The City's existing general plan contains a chapter on integrated waste management. The stated goal is to encourage solid waste reduction through diversion of organic and recyclable material that would be otherwise landfilled without deteriorating the environment.

Integrated Waste Management Element

Objective H-1: Solid Waste: Cooperate in guiding the development and improvement of a solid waste disposal system within the County of Orange that will meet the needs of the City and protect the City from damage by unplanned disposal of refuse.

Policy (a): Use the General Plan land use categories and building intensity standards as a basis for estimating waste disposal requirements and program needs.

Policy (b): Encourage continued study of alternative waste disposal methods and technology with emphasis on reuse of solid waste materials and on waste-to-energy.

Policy (c): Develop all waste disposal programs in cooperation with landowners, the county, and other jurisdictional and regulatory agencies.

Policy (d): Work closely with the operator(s) of existing landfill sites to minimize deleterious effects on surrounding land uses including possible.

4.14.1.5 Electricity, Natural Gas, and Telecommunications Facilities

Electricity and Natural Gas

Electricity is provided to the City by the Orange County Power Authority and is accessed by customers via Southern California Edison's (SCE) infrastructure. SCE is one of the nation's largest electric utilities providing electricity service to more than 50 million people in a 50,000-square-mile area of central, coastal, and Southern California. SCE's total mid-electricity consumption in SCE's service area was 2,102 gigawatt-hour (GWh) in 2024 and is forecast to increase to 2,541 GWh in 2035 (the year furthest out for which there is data available). Therefore, the total mid-electricity consumption in SCE's service area is forecast to increase by approximately 439 GWh between 2024 and 2035 (CEC 2022).

Community Choice Energy

The passage of AB 117 in 2002 established Community Choice Aggregation in California allowing municipalities at the local and county levels to form independent, locally-governed and not-for-profit energy providers. Community Choice Energy (CCE) programs enable local government control over energy procurement to purchase power, set competitive rates, and collect revenue. Customers have the option of choosing increased percentages of renewable energy. CCE programs in California generally procure and resell a power mix between 50 percent and 100 percent renewable energy to their customers.

The Orange County Power Authority (OCPA) was established in 2021. On February 8, 2022, the Irvine City Council unanimously voted to select the 100% Renewable Energy default service level for all Orange County Power Authority customers in Irvine. The OCPA began providing commercial and municipal service in April 2022, followed by residential service in October 2022. OCPA purchases energy from clean, renewable sources including solar, wind, biomass, geothermal and hydroelectric. 100 percent renewable energy is the default tier for customers unless they choose a lower tier or opt out and remain with SCE.

Natural Gas

Irvine's natural gas is provided by the Southern California Gas Company (SoCalGas). SoCalGas service area includes most of southern California, from Imperial County on the southeast to San Luis Obispo County on the northwest, to part of Fresno County on the north, to Riverside County and most of San Bernardino County on the east. Total natural gas supplies available to SoCalGas in the year 2022 is estimated at 2,416 million cubic feet per day.

Telecommunications

Internet, phone, and satellite television services are currently provided by a variety of private sources, including AT&T, Time Warner Cable, Spectrum, Verizon, and more.

4.14.2 Applicable Regulatory Requirements

4.14.2.1 Federal

a. Clean Water Act

Originally enacted in 1948 and amended in 1972 and 1987, the Clean Water Act (CWA) establishes two national goals: eliminate the discharge of pollutants into the nation's waters and achieve water quality that is both "fishable" and "swimmable". Discharge of pollutants into waters of the United States from any "point source" (i.e., a discharge pipe) is prohibited, unless authorized by a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments direct the U.S. Environmental Protection Agency (U.S. EPA) to establish a permitting framework under the NPDES program to address stormwater discharges associated with urban areas and certain industrial activities.

b. Federal NPDES Permit Program

Section 402 of the CWA prohibits the discharge of pollutants in waters of the United States from any point source without an NPDES permit. Results of the Nationwide Urban Runoff Program also identified contaminated stormwater (a non-point source) as a primary cause of water quality impairment. To regulate stormwater discharges, the EPA developed a two-phased NPDES permit program. Phase I of the program requires municipalities which own and operate separate storm drains systems serving populations of 100,000 or more to obtain municipal stormwater NPDES permits. Municipalities must have a stormwater management program to obtain a permit.

c. Energy Independence and Security Act of 2007

The Energy Independence and Security Act was signed into law in December 2007 and is an energy policy law that contains provisions designed to increase energy efficiency and the availability of renewable energy. This act contains provisions for increasing fuel economy standards for cars and light trucks, while establishing new minimum efficiency standards for lighting as well as residential and commercial appliance equipment.

d. Energy Policy Act of 2005

The Energy Policy Act was passed in July 2005 and includes a comprehensive set of provisions to address energy issues. Energy Policy Act includes tax incentives for the following: energy conservation improvements in commercial and residential buildings; fossil fuel production and clean coal facilities; and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

e. National Energy Policy

The National Energy Policy was established in 2001 by the National Energy Policy Development Group, this policy is designed to help the private sector and state and local governments promote

dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the energy policy are energy conservation, repair, and expansion of energy infrastructure, and ways of increasing energy supplies while protecting the environment.

4.14.2.2 State

a. Urban Water Management Planning Act

The Urban Water Management Planning Act of 1983, California Water Code Sections 10610 et seq., requires preparation of a plan that:

- Plans for water supply and assesses reliability of each source of water, over a 20-year period, in five-year increments.
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years.
- Implements conservation and the efficient use of urban water supplies. Significant new requirements for quantified demand reductions have been added by the Water Conservation Act of 2009 (Senate Bill 7 of Special Extended Session 7 [SBX7-7]), which amends the act and adds new water conservation provisions to the California Water Code.

b. California Water Plan

The California Water Plan is the state's strategic plan for managing and developing water resources statewide for current and future generations, as required by the California Water Code. The plan is updated every five years.

c. Water Quality Control Plan for Ocean Waters of California (Ocean Plan)

Created by the State Water Resources Control Board (SWRCB) in 1972 and amended in 1997, the Ocean Plan aims to protect ocean water quality for use by residents of the state. The provisions apply to both point source and non-point source discharges and establishes water quality objectives and effluent limitations for all bordering oceans of the state.

d. The Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, the SWRCB is given the ultimate authority of state water rights and water quality policy. It also establishes nine RWQCBs. The entire City is in the jurisdictional area of the Santa Ana RWQCB.

e. The California Coastal Non-Point Pollution Control Program

The 1990 Coastal Zone Act Reauthorization Amendments (CZARA) require states with coastal zones to develop and implement Coastal Non-point Pollution Control Programs so that states and local authorities will work together to control non-point source pollution. CZARA provides guidance on

required management measures to address various sources of non-point source pollution, including certain urban runoff but excluding discharges regulated by NPDES permits. CZARA requirements also apply to stormwater discharges that are not regulated under the current Phase I NPDES program.

f. California NPDES Permit Programs

The U.S. EPA has delegated administration of the NPDES permit program to the SWRCB and its nine Regional Boards.

g. California Senate Bill 1087: Sewer and Water Service Priority for Housing Affordable to Lower-Income Households (2006)

This statute requires local governments to provide a copy of the updated housing element to water and sewer providers immediately after adoption. Water and sewer providers must grant priority for service allocation to proposed development that includes housing units affordable to lower-income households. Additionally, urban water management plans (UWMPs) are required to include projected water use for future lower-income households.

h. California State Senate Bill 221 and Senate Bill 610 (January 2002)

Senate Bill (SB) 610 requires water suppliers to prepare a Water Supply Assessment (WSA) report for inclusion by land use agencies within the California Environmental Quality Act (CEQA) process for new developments. SB 221 requires water suppliers to prepare written verification that sufficient water supplies are planned to be available prior to approval of large-scale subdivisions. As defined in SB 221 and SB 610, large-scale projects include residential development projects that include more than 500 residential units and/or shopping centers or business establishments resulting in a net increase of more than 1,000 employees or more than 500,000 square feet of floor space.

i. 2006 Waste Discharge Requirements Order

The SWRCB adopted Statewide General Waste Discharge Requirements for Sewer Systems (Order No. 2006-0003-DWQ). The intent of the order is to regulate all collections systems in the state to reduce or eliminate the number of sanitary sewer overflows, which by their nature, pollute the environment. A sanitary sewer overflow is any overflow, spill, release, discharge, or diversion of wastewater from a sewer system. The order is applicable for all publicly owned sewage collection systems with more than one mile of sewer pipe.

j. California Integrated Waste Management Act of 1989 (as amended by AB 341)

Originally, the Integrated Waste Management Plan mandated to divert 25 percent of their solid waste by 1995 and 50 percent by 2000. AB 341 amended these requirements as follows: (1) CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to divert 75 percent of the solid waste generated in the state from disposal by January 1, 2020; (2) requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012; (3) streamlines the amendment process for non-disposal facility elements,

by allowing changes without review and comment from a local task force; and (4) allows a solid waste facility to modify their existing permit, instead of having to undergo a permit revision, under specified circumstances.

k. California AB 3232

Signed into law in September 2018, California AB 3232 calls on the California Energy Commission (CEC) (working in consultation with the California Public Utilities Commission [CPUC]) and other state agencies) to develop and articulate plans and projections, by year 2021, to reduce GHG emissions of California's residential and commercial buildings to 40 percent below 1990 levels by 2030. Much of the reduction will likely occur by replacing some buildings' gas end-use applications with electric ones.

l. California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in 1977. Title 24 requires the design of buildings to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

The 2022 Building Energy Efficiency Standards (Energy Code) encourages efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards, strengthens ventilation standards, and more. Buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Energy Code. The 2022 Energy Code also introduced new requirements for low-rise multi-family buildings. These include requirements to register low-rise multi-family compliance documents with a CEC-approved residential data registry when field verification and diagnostic testing will be required to demonstrate compliance with the Energy Code.

m. Appliance Efficiency Regulations

California's Appliance Efficiency Regulations (California Code of Regulations [CCR] Title 20, Parts 1600–1608) contain energy performance, energy design, water performance, and water design standards for appliances that are sold or offered for sale in California. These standards are updated regularly to allow consideration of new energy efficiency technologies and methods.

n. Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential)

The California Public Utilities Commission adopted its Long-Term Energy Efficiency Strategic Plan on September 18, 2008, presenting a roadmap for all new residential and commercial construction to achieve a zero-net energy standard. This Plan outlines the goal of reaching zero net energy in residential construction by 2020 and in commercial construction by 2030. Achieving this goal will require increased stringency in each code cycle of California's Energy Code (Title 24).

o. Governor's Green Building Executive Order (S-20-04)

On December 14, 2004, California's governor signed Executive Order S-20-04, creating a Green Building Action Plan to improve the energy performance of all state buildings. In general, the Executive Order required increased investments in energy efficiency for state-owned buildings and encouraged cities, counties and private businesses to reduce their energy use. Governor Schwarzenegger stated a goal of reducing electricity used in existing government and private commercial buildings by 10 percent per square foot by 2010 and 20 percent per square foot by 2015. He also mandated that all new and renovated buildings paid for with state funds be certified as Leadership in Energy and Environmental Design ("LEED") Silver standard or higher, and that office spaces and office equipment leased or purchased by the state be ENERGY STAR-qualified where cost-effective.

4.14.2.3 Local

a. Irvine Ranch Water District Water Use Efficiency and Conservation Policies

IRWD's published water conservation policies, practices, and procedures in 2018 to provide long-term water reliability for existing and future customers. IRWD water conservation policies include the following:

1. IRWD is committed to "Making Water Conservation a California Way of Life."
2. An integrated and sustainable approach to California water resource management must recognize the role that water use efficiency and supply development play in ensuring an adequate and reliable water supply for California's many diverse communities.
3. Water efficiency and conservation programs are most successful if they are locally designed, implemented and managed.
4. Water use efficiency and conservation programs should be cost effective and economically viable.
5. Local agencies should take steps to preserve fiscal stability and water affordability when implementing water use efficiency and conservation programs.
6. The benefits and consequences of statewide, regional, and local water use efficiency and conservation policies should be understood prior to being implemented. At a minimum, the benefits and consequences to water and wastewater management, systems, infrastructure, operations, and recycled water supplies should be examined.
7. Statewide and regional policies should encourage and reward previous investments in beneficial water use efficiency strategies, including water recycling, water-budget based rate structures that create a nexus between those overusing water and those bearing the costs of overuse, and investments in distribution system integrity, among others.
8. Statewide and regional water use efficiency goals must incentivize and account for local investments in drought resilient supplies, including investments in recycled water and potable reuse.
9. Conservation strategies should include promoting both the expansion and efficient use of recycled water and potable reuse.

10. State agencies should engage urban retail water suppliers during implementation and development of methodologies, and regulations related to "Making Water Conservation a California Way of Life."

b. Municipal Code

The City's Municipal Code Ordinance 21-19 , § 3(Exh. A), 12-14-21 provides standards for the provision of solid waste (refuse) and recyclable material storage areas in compliance with state law (California Solid Waste Reuse and Recycling Access Act, Public Resources Code Sections 42900 through 42911). Additionally, the City's Building Code requires development projects to complete and submit a Waste Management and Recycling Plan for approval prior to issuance of building permits. The Waste Management and Recycling Plan would identify the project type and estimate the amount of materials to be recycled during construction. The following provisions in the Municipal Code apply to future development resulting from implementation of the project:

Title 5 (Planning), Division 7 (Sustainability in Landscaping)

The purpose of this division is to provide policies, standards, procedures, and guidelines to achieve long-term levels of sustainability in landscapes. Sustainability is a concept which emphasizes the environmental impacts and benefits of landscapes. In most instances, a sustainable landscape is one which provides positive levels of carbon storage and oxygen productivity after all demands for energy, water, soil improvement and maintenance activities to support have been considered. This division is intended to promote actions that conserve, recycle, and reuse the resources which are invested in landscapes.

Title 6 (Public Works & Transportation: Project Delivery & Sustainability), Division 7 (Solid Waste; Organic Waste Diversion; Construction and Demolition Waste) – Chapter 10 (Recycling and Diversion of Construction and Demolition Waste)

Municipal Code (Title 6, Division 7 – Chapter 10) and the California Green Building Standards Code ("CALGreen" Sections 4.408, 5.408, and 5.713.8) require that construction development, renovation, and demolition projects recycle or otherwise divert construction and demolition debris from landfills. These requirements promote the reuse of resources and help extend the useful life of landfills in compliance with the CALGreen Code and state laws including the California Integrated Waste Management Act (AB939, Sher) and Mandatory Construction and Demolition Waste Diversion (SB1374, Kuehl).

Title 5 (Planning), Division 9 (Building Regulations), Chapter 1 (Adoption of Building and Fire Code) Building and Energy Efficiency Standards (California Code of Regulations Title 24)

Prior to the issuance of a building permit for residential, commercial, or office structures in the Irvine Business Complex, development plans for these structures shall be required to demonstrate that the project meets the current Building and Energy Efficiency Standards, as adopted and amended by the City. Commonly known as Title 24, these standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Plans submitted for building permits shall include written notes demonstrating compliance with the current energy standards and shall be reviewed and approved by the Public Utilities Department prior to issuance

of building permits. Design strategies to meet this standard may include maximizing solar orientation for daylighting and passive heating/cooling, installing appropriate shading devices and landscaping, utilizing natural ventilation, and installing cool roofs. Other techniques include installing insulation (high R value) and radiant heat barriers, low-e window glazing, or double-paned windows.

d. Zoning Ordinance

The following provisions in the Zoning Ordinance would apply to future development resulting from implementation of the project:

Chapter 3-23 (Solid Waste Collection Standards)

This chapter of the Zoning Ordinance outlines the solid waste collection standards that apply to all residential and nonresidential developments. This chapter includes standards for collecting and loading recyclable materials in development projects as specified below pursuant to the California Solid Waste Refuse and Recycling Access Act of 1991 (AB 1327).

Chapter 3-31 (Solar Energy System Standards)

This chapter encourages investment in solar energy systems on all parcels in the City, both residential and nonresidential, while providing guidelines for the installation of those systems that are consistent with the architectural and building standards of the City. All solar energy systems shall comply with all applicable provisions of the City Codes and the standards of this chapter.

Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District)

As outlined in Section 5-8-4.A.7 (Green-Point Rated Development) of Chapter 5- 8, applicants for new residential development in the IBC are required to submit evidence to the satisfaction of the Director of Community Development that proposed buildings have been designed and constructed to be Green-Point Rated.

Chapter 9-36 (Planning Area 36-Irvine Business Complex)

Section 9-36-20 (Environmental Standards) of Chapter 9-36 outlines the environmental standards that are applicable to new development projects in the IBC. Provisions include the following:

- Requirement that construction contractors provide alternative transportation mode incentives, such as bus passes, and/or carpooling for workers to and from the worksite on days that construction activities require 200 or more workers.
- Submittal of evidence that the project uses recycled materials for at least 20 percent of construction materials.
- Submittal of evidence that toilets, urinals, sinks, showers, and other water fixtures installed onsite are ultra-low-flow fixtures that exceed the Uniform Building Code.
- Submittal of evidence that the projects' landscape irrigation system is an automated, high-efficient irrigation system that reduces water waste.
- Requirement to use reclaimed water on all master landscaped areas.

- Requirement for the provision of onsite recycling facilities on all new developments as required by the Director of Public Works and Transportation.
- Submittal of evidence for new non-residential developments that proposed buildings are designed and constructed to achieve the "Designed to Earn the Energy Star" rating.

e. Construction and Demolition (C&D) Debris Recycling and Reuse Ordinance

The C&D ordinance requires that (1) all residential projects of more than one unit, (2) nonresidential developments on 5,000 square feet or larger, and (3) nonresidential demolition/renovations with more than 10,000 square feet of building recycle or reuse a minimum of 75 percent of concrete and asphalt and 50 percent of nonhazardous debris generated.

f. Irvine Sustainability Community Initiative

The Irvine Sustainability Community Initiative (Initiative Ordinance 10-11), adopted by the voters of the City as Initiative Measure S on November 2, 2010, and certified by the City Council on December 14, 2010, became effective December 24, 2010. The ordinance was adopted to ratify and implement policies in support of renewable energy and environmental programs for a sustainable community. It outlines the City's direction for continuing to develop and implement programs geared towards green building, renewable energy and sustainability. For example, the City would continue to develop and implement recycling, zero waste or other innovative onsite business programs to divert waste from landfills and also continue to develop and implement the use of native, California-friendly and drought-tolerant landscaping.

g. Requirement to Use Recycled Water

IRWD will identify customers in a zone identified in the Plan ("the Plan" collectively refers to the Water Resources Master Plan, Sewer Master Plan, Natural Treatment System Master Plan, and addenda thereto) as an area capable of receiving service from the IRWD's recycled water system, and will determine the feasibility of providing recycled water service to these customers. IRWD will also review applications for new permits to determine the feasibility of providing recycled water service to these applicants. If recycled water service is determined by IRWD to be feasible, applicants for new water service shall be required to install on-site facilities to accommodate both potable water and recycled water service in accordance with these Rules and Regulations. IRWD may also require existing customers to retrofit existing on-site water service facilities to accommodate recycled water service. If IRWD does not require the use of recycled water service, the customer may obtain recycled water service upon request but only if IRWD has determined that recycled water service to the customer is feasible and authorizes such use.

h. Planning Commission Resolution No. 09-2968

Standard Conditions are adopted by Planning Commission Resolution No. 09-2968. These conditions assist staff in applying standardized wording for frequently used conditions of approval to discretionary and subdivision applications. Standard conditions are applied on a case-by-case basis depending upon the specifics of the application. Companion conditions are cross-referenced and are required to be used together. The following standard conditions related to utilities apply:

City Standard Condition 2.24 (Solid Waste Recycling)

Prior to the issuance of grading permits for a project that involves the demolition of an asphalt or concrete parking lot on site, the applicant shall submit a waste management plan demonstrating compliance with the requirements of Title 6, Division 7 of the Municipal Code relating to recycling and diversion of demolition waste as applicable to said project. Over the course of demolition or construction, the applicant shall ensure compliance with all code requirements related to the use of City authorized waste haulers.

City Standard Condition 3.7 (Solid Waste Recycling)

Prior to the issuance of building permits for a project that involves new construction or that involves the demolition or renovation of existing buildings on site, the applicant shall comply with requirements of Title 6, Division 7 of the Municipal Code relating to recycling and diversion of construction and demolition waste as applicable to said project. Over the course of demolition or construction, the applicant shall ensure compliance with all code requirements related to the use of City authorized waste haulers.

i. Existing Plans, Programs, and Policies Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the proposed project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the proposed project and will help to reduce and avoid potential impacts related to utilities:

- PPP-UTIL-1 Engineering Standard Plans
- PPP-UTIL-2 Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential)
- PPP-UTIL-3 Irvine Sustainability Community Initiative
- PPP-UTIL-4 California Water Code Section 10912 and California Government Code Section 66473.7
- PPP-UTIL-5 Senate Bill 221 (SB 221)
- PPP-UTIL-6 Requirement to Use Recycled Water
- PPP-UTIL-7 City of Irvine Construction and Demolition (C&D) Debris Recycling and Reuse Ordinance
- PPP-UTIL-8 Waste Reduction
- PPP-UTIL-9 City Standard Condition 2.24 (Solid Waste Recycling)
- PPP-UTIL-10 City Standard Condition 3.7 (Solid Waste Recycling)

If a proposed development is considered a project as defined by California Water Code Section 10912 and/or a subdivision as defined by California Government Code Section 66473.7, then a water supply assessment shall be prepared and included in the analysis and appendices of the environmental document being prepared for the project.

General Plan Update

In addition to the above-listed PPPs, the following proposed Goals, Objectives, Policies, and Implementation Actions are applicable to the analysis of utilities and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Environmental Protection and Climate Action Element

Goal 3: Reduce greenhouse gas emissions and mitigate climate change impacts in Irvine to create a more sustainable and resilient community.

- Policy (a): Promote the transition to renewable energy sources, such as solar, wind, and geothermal, for electricity generation within Irvine.

Goal 5: Protect and enhance water quality in Irvine through policy implementation and measures to prevent pollution, conserve water resources, and ensure access to safe and clean water.

Objective EPCA-5: Achieve and maintain compliance with water quality standards set by regulatory agencies, such as the Environmental Protection Agency (EPA) and the California State Water Resources Control Board (SWRCD), to safeguard public health and the environment.

- Policy (a): Implement measures to prevent and control pollution from various sources, including industrial discharges, stormwater runoff, agricultural activities, and wastewater treatment plants.

- Policy (c): Implement green infrastructure projects, such as rain gardens, bioswales, and permeable pavement, to manage stormwater runoff and reduce nonpoint source pollution.

- Policy (d): Promote water conservation practices and sustainable water use behaviors among residents, businesses, and municipal operations to reduce water consumption and minimize strain on water resources.

- Policy (e): Implement water-efficient landscaping standards, irrigation technology upgrades, and leak detection programs to optimize water use and reduce wastage.

Goal 6: Reduce energy consumption and promote energy efficiency in Irvine.

Objective EPCA-6: Achieve significant reductions in per capita energy consumption across residential, commercial, and municipal sectors while promoting the adoption of renewable energy sources and energy-efficient technologies.

- Policy (a): Through the efforts of CALGreen, establish and enforce energy efficiency standards and building codes for new construction and major renovations to improve the energy performance of buildings and reduce energy demand.

- Policy (b): Require energy-efficient building design, insulation, HVAC systems, lighting, and appliances to minimize energy consumption and lower utility costs for residents and businesses.

- **Policy (c):** Promote the adoption of renewable energy systems, such as solar photovoltaic (PV) panels, wind turbines, and geothermal heat pumps, to generate clean and sustainable electricity for onsite consumption or grid injection.

Goal 7: Minimize waste generation, promote sustainable waste management practices, and maximize resource recovery in Irvine.

Objective EPCA-7: Achieve significant reductions in per capita waste generation and increase diversion rates through comprehensive waste reduction, reuse, recycling, and composting initiatives, while minimizing landfill disposal and associated greenhouse gas emissions.

- **Policy (d)**: Cooperate in guiding the development and improvement of a solid waste disposal system within the County of Orange that will meet the needs of the City and protect the City from damage by unplanned disposal of refuse.

- **Policy (e)**: Control the siting of solid waste disposal facilities to minimize impact on adjacent or existing planned land uses.

Goal 10: Promote sustainable land use practices in Irvine.

Objective EPCA-10: Implement policies and initiatives that prioritize sustainable land management, smart growth principles, and equitable development strategies to ensure the efficient use of land while protecting environmental quality and promoting community well-being.

- **Policy (c)**: Integrate green infrastructure elements, such as parks, greenways, and open spaces, into land use planning and development projects to manage stormwater runoff, improve air and water quality, and enhance ecological connectivity and biodiversity.

Conservation and Open Space Element

Goal 10. Enhanced open space accessibility and utilization, and conservation efforts of resources.

Objective COS-10: The City commits to creating and fostering well-integrated and sustainable open space resources available to City residents and visitors.

- **Policy (i):** Coordinate conservation of water resources in alignment with Environmental Protection and Climate Action Elements objectives and policies to encourage the integration of existing and future water sources (reservoirs, lakes, and drainage courses) into development.

4.14.3 Significance Determination Thresholds

The City has adopted Appendix G of the State CEQA Guidelines as the significance thresholds for utilities and service systems. Thus, an initial study should consider whether a project will:

1) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electrical power, natural gas, or telecommunications

facilities, the construction or relocation of which could cause significant environmental effects;

2) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;

3) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

4) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or

5) Comply with federal, state, or local management and reduction statutes and regulations related to solid waste.

4.14.4 Methodology

Impacts associated with utilities have been assessed through consideration of existing utility infrastructure within the City and whether the expansion of existing utility infrastructure would be necessary to serve these developments. The potential for significant impacts to occur associated with such utilities as water, storm drainage, and water quality has been determined based upon the analysis presented in Appendix I and summarized here. Other topics not covered by the Appendix I report, such as solid waste and natural gas, energy, and telecommunications facilities, has been assessed at the City-wide level using publicly available data and City reports to address whether the anticipated buildout of the project would increase demands on this utility to warrant an expansion or construction of new infrastructure which would cause a significant impact to the environment.

4.14.5 Topic 1: Utility Infrastructure

Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

4.14.5.1 Impact Analysis

a. Water

Implementation of the project has the potential to increase water demand over existing conditions by approximately 2,093 AFY. As described in greater detail in Section 4.14.6.1 below, IRWD is projected to have a water supply capacity of 178,727 AFY through 2040, which far exceeds IRWD's project water supply demand of 88,023 AFY through 2040. Consequently, IRWD would have a water supply surplus of 90,704 AFY through 2040, which would exceed the project's projected increase in water demand of 2,093 AFY.

While the total project-related water demand would be within IRWD's capacity to serve the project, implementation of the future projects facilitated by approval of the project would require construction of new water infrastructure where existing water lines are not sufficient to accommodate the increased water demand. These determinations would be made on a project-by-project basis, including site-specific fire flow tests and hydraulic pressure analyses as projects are developed. The proposed improvements may include upsizing water lines on-site and off-site and additions of boosters in low pressure areas. In those conditions, where hydraulic or capacity impacts affect other service areas within the Improvement District, the developer would be responsible for paying for the impacts through their connection fees (see Appendix I). Furthermore, because the City's UWMP is required to include projected water use by land use type (i.e., accommodate the new General Plan land uses), the City's 2025 UWMP would be required to incorporate the proposed land use changes into their water demand and supply projections out to 2050.

The construction of the on-site and off-site water lines and associated improvements would primarily include trenching for the pipelines. Future infrastructure improvement would be subject to the requirements of the City's engineering standard plans (PPP UTIL-1), and all construction would be performed in accordance with the Construction General Permit and all associated requirements. Any work that may affect services to the existing water lines would be coordinated with the City and IRWD. When considering impacts resulting from the installation of any required water infrastructure, all impacts are of a relatively short-term duration and would cease to occur once the installation is complete. Therefore, impacts associated with construction of new or expanded water facilities would be less than significant.

b. Wastewater

Implementation of the proposed project has the potential to increase sewer flows by approximately 2.04 mgd. As described in greater detail in Section 4.14.7.1 below, this increase falls within the remaining treatment capacity of the MWRP, which has an existing surplus treatment capacity of 28 mgd. Furthermore, the capacity expansion of MWRP through projects like the Phase 2 Expansion in 2014, which added 7 mgd, has ensured that the plant can accommodate additional demand. Additionally, OCSD's Plant No. 1, with a treatment capacity of 320 mgd, remains capable of accommodating the projected increase in sewer flows.

Implementation of the project would likely require construction of new sewer infrastructure where existing sewer lines are not sufficient to accommodate the increased flows. The locations of these sewer improvements would be based on the project-specific locations. These determinations would be made on a project-by-project basis, including site specific sewer flow monitoring and hydraulic sewer analysis. All project applicants would be required to submit detailed information to IRWD regarding product type, size, number of units or square feet, projected demands (indoor and outdoor), and other project details, so impacts on the existing sewer system could be managed properly. In those conditions, where hydraulic or capacity impacts affect other service areas or users within the Improvement District, the developer would be responsible for paying for the impacts through their connection fees. When capital projects are identified for regional sewer improvements within the Improvement District, the costs are shared 50/50 between developer connection fees and existing users through property tax assessments. Furthermore, on a citywide scale, the City's Capital

Improvement Program (CIP) would identify and prioritize necessary projects as developments under the project come online (see Appendix I).

The construction of the on-site and off-site sewer lines and associated improvements would primarily include trenching for the pipelines. All construction would be required to be performed in accordance with the Construction General Permit and all associated requirements. Any work that may affect services to the existing sewer lines would be coordinated with the City and IRWD. IRWD also has Sewer Improvement Districts which allows the District to assess improvements per Improvement Area and collect fees accordingly. This process ensures that the fees collected are consistent with the improvements needed within the respective District being improved. Furthermore, future infrastructure improvements would also be subject to the requirements of the City's engineering standard plans (PPP UTIL-1), which would ensure that all improvements comply to the City's standard requirements for infrastructure improvements. Therefore, impacts associated with construction of new or expanded wastewater facilities would be less than significant.

c. Stormwater

As described in Appendix I, most of the development under the project would consist of infill vacant lots (new development) or redevelopment of existing non-residential properties into high density residential, particularly within the three focus areas. In both circumstances, the surrounding area has already been developed and the primary public storm drain system and points of connection are set in place. Implementation of the proposed land uses would rely on the existing drainage systems to convey runoff. Current runoff is captured and conveyed by existing City or County storm drain infrastructure throughout the City before discharging to regional County flood control facilities and channels. From there, the runoff is ultimately discharged into the Newport Bay. The City is primarily built out, and no major changes in storm flows are anticipated. As noted previously, the City and the County have policies in-place associated with the MS4 Permit that would require design and installation of detention systems to mitigate peak flows for certain development projects, and/or if downstream drainage facilities ever become deficient (see Appendix I). Future infrastructure improvement would be subject to the requirements of the City's engineering standard plans (PPP UTIL-1), and all construction would be performed in accordance with the Construction General Permit and all associated requirements. All impacts would be short-term and would cease to occur once the installation is complete. Therefore, impacts associated with construction of new or expanded stormwater facilities would be less than significant.

d. Electric Power, Natural Gas, and Telecommunications

Future development under the project would increase demand for electric, natural gas transmission, and telecommunication services. However, future development would occur incrementally through 2045, based on market conditions and other factors, such that demand for these utility services would not be overburdened at any given time. Additionally, future development under the project would accommodate increases in population based on SCAG's demographic projections. Therefore, the project would accommodate planned growth, and would not exceed regionally forecasted demand for electric power by SCE and OCPA or natural gas for SoCalGas. Furthermore, future development under the project would connect to the existing telecommunications infrastructure (telephone, internet, wireless services) present within the City.

Construction of the necessary improvements and/or extensions creates the potential for additional impacts such as dust, air emissions, and noise. Impacts associated with the construction of these facilities are found throughout the PEIR in the analysis of impacts to such topics as air quality and noise. Any applicable mitigation measures and PPPs identified in those sections would address potential significant impacts associated with construction of telecommunications infrastructure.

Additionally, the City currently implements strategies to reduce energy consumption through compliance with the Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential) (PPP UTIL-2) and the Irvine Sustainability Community Initiative (PPP UTIL-3). Future development under the project would also comply with these requirements. Future infrastructure improvement would be subject to the requirements of the City's engineering standard plans (PPP UTIL-1), and all construction would be performed in accordance with the General Construction Permit and all associated requirements. All impacts would be short-term and would cease to occur once the installation is complete. Therefore, impacts associated with construction of new or expanded electric power, natural gas, and telecommunications facilities would be less than significant.

4.14.5.2 Significance of Impacts

Overall, project related demands for water, wastewater, electric, natural gas, and telecommunications facilities would be within the service capacity for each service provider. All infrastructure improvements would be required to comply with applicable City regulations, including PPPs UTIL-1 related to compliance with engineering standard plans; UTIL-2 and UTIL-3 related to energy usage; and PPPs UTIL-3, UTIL-5, and UTIL-6 related to water reduction. Therefore, impacts related to the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects, would be less than significant.

4.14.5.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.14.6 Topic 2: Water Supply

Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

4.14.6.1 Impact Analysis

As described in Section 4.14.5.1a above, implementation of the project would have the potential to increase water demand over existing conditions by approximately 2,093 AFY. However, Appendix I determined that IRWD is projected to have a water supply capacity of 178,727 AFY through 2040, which far exceeds IRWD's project water supply demand of 88,023 AFY through 2040. Consequently, IRWD would have a water supply surplus of 90,704 AFY through 2040, which would exceed the project's projected increase in water demand of 2,093 AFY. Furthermore, future development under the project would comply with the requirements to prepare a water supply assessment as applicable (PPP UTIL-4 and PPP UTIL-5) and utilize recycled water (PPP UTIL-6) as applicable. Additional goals,

objectives, and policies in the updated Conservation and Open Space and Environmental Protection and Climate Action Elements would further the City's goal of reducing water demand on a citywide basis. Therefore, sufficient water supplies would be available to serve the project, and impacts would be less than significant.

4.14.6.2 Significance of Impacts

Project-related increase in water demand would be within the available supply capacity of IRWD. However, the project would be required to comply with City regulations pertaining to water suppl and usage (PPPs UTIL-4, UTIL-5, and UTIL-6), which would further reduce potential water supply demands. Therefore, impacts would be less than significant. No mitigation is required.

4.14.6.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.14.7 Topic 3: Wastewater Treatment

Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

4.14.7.1 Impact Analysis

Wastewater for the City is treated at the MWRP, which is operated by IRWD. MWRP has an existing surplus treatment capacity of 28 mgd. Buildout of the project is anticipated to increase sewer flows by approximately 2.04 mgd, which is well within the remaining treatment capacity of the MWRP. Additionally, the capacity expansion of MWRP through projects like the Phase 2 Expansion in 2014, which added 7 mgd, has ensured that the plant can accommodate additional demand. The MWRP currently operates at an average of 25 mgd, recycling about 9 billion gallons of water annually. OCSD's Plant No. 1, with a treatment capacity of 320 mgd, also remains capable of accommodating the projected increase in sewer flows (see Appendix I). Therefore, the project would not exceed existing wastewater treatment capacity, and impacts would be less than significant.

4.14.7.2 Significance of Impacts

Project-related increase in wastewater would be within the capacity of the MWRP. Therefore, impacts related to inadequate capacity of a wastewater treatment provider to serve the project would be less than significant.

4.14.7.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.14.8 Topics 4 and 5: Solid Waste

Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Would the project comply with federal, state, or local management and reduction statutes and regulations related to solid waste?

4.14.8.1 Impact Analysis

Commercial solid waste generated within the City is disposed of at the Frank R. Bowerman Landfill, which has permitted for 11,500 tons per day (TPD) maximum with an 8,500 TPD annual average. The landfill has enough projected capacity to serve businesses until approximately 2053 (OC Waste and Recycling 2024). All other solid waste is disposed off at the Olinda Alpha Landfill in Brea and at the Prima Deshecha Landfill in San Juan Capistrano (Orange County Waste and Recycling 2022). The Olinda Alpha Landfill (SWIS No. 30-AB-0035) has a permitted capacity is 8,000 tons per day and a remaining capacity of 18 percent and is anticipated to serve the community through 2028 (Orange County Waste and Recycling 2024; Orange County Grand Jury 2017; and Orange County Waste and Recycling 2016). The Prima Deshecha Landfill (SWIS No. 30-AB-0019) has a permitted capacity is 4,000 tons per day and a remaining capacity of 99 percent and is anticipated to serve the community through 2099 (Orange County Waste and Recycling 2024; Orange County Grand Jury 2017; and Orange County Waste and Recycling 2016).

Future development would be subject to waste reduction measures to divert solid waste from landfills during construction and demolition (a 65 percent diversion rate per the City's C&D Program) and during operations through composting, recycling, and reuse through resource recovery. The City has a waste diversion goal of reducing organic waste disposal 75 percent by 2025. These goals are consistent with state regulations regarding solid waste, composting, and recycling. The City implements policies to reduce generation of solid waste through the City's debris recycling and reuse ordinance (PPP UTIL-7), waste reduction (PPP UTIL-8) and City standard conditions related to solid waste recycling (PPP UTIL-9 and PPP UTIL-10). Future development under the project would also be required to comply with these standards. Additionally, EPCA Element Goal 7 and its supporting objectives and policies would serve to further support the City's goal of reducing solid waste through reduction and recycling efforts for all land use types. Therefore, the project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, and impacts would be less than significant.

4.14.8.2 Significance of Impacts

Project-related increases in solid waste would be required to comply with City standards related to solid waste reduction efforts (PPPs UTIL-7 through UTIL-10), as well as all applicable federal and state reduction statutes. Therefore, impacts would be less than significant. No mitigation is required.

4.14.8.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.14.9 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for utilities and services. The study area for the assessment of cumulative impacts related to utilities and services is the City. The impact analysis presented in Sections 4.14.5 through 4.14.8 above is cumulative in nature, because it considers the need for future facilities and available capacity for the entire City. IRWD would have a water supply surplus of 90,704 AFY through 2040, which would exceed the project's projected increase in water demand of 2,093 AFY. Similarly, MWRP operated by IRWD has an existing surplus treatment capacity of 28 mgd, which would be able to accommodate the increased sewer flows of 2.04 MGD associated with the project, and OCSD's Plant No. 1 has a treatment capacity of 320 MGD, remains capable of accommodating the projected increase in sewer flows. Future development would occur incrementally through 2045, based on market conditions and other factors, such that demand for these utility services would not be overburdened at any given time. Additionally, future development under the project would accommodate increases in population based on SCAG's demographic projections. Therefore, the project would accommodate planned growth, and would not exceed regionally forecasted demand for electric power by SCE and OCPA or natural gas for SoCalGas. Furthermore, future development under the project would connect to the existing telecommunications infrastructure (telephone, internet, wireless services) present within the City. Furthermore, Frank R. Bowerman Landfill has enough projected capacity to serve residents and businesses until approximately 2053. Therefore, the project would not contribute to a significant cumulative impact related to utilities and services.

4.15 Wildfire

This section analyzes potentially significant impacts related to wildfire that could result from implementation of the project. This analysis relies on secondary source information including City programs and plans, and data available from the California Department of Forestry and Fire Protection (CAL FIRE) and other applicable agencies.

4.15.1 Existing Conditions

The majority of the city of Irvine (City) lies within a wide, level valley bordered by the Santa Ana Mountains and San Joaquin Hills, characterized by predominantly urbanized areas devoid of fire-prone vegetation. However, the northern and southern areas of the City feature canyons, ridges, and hillsides harbor dry grasses and woody shrubs highly susceptible to ignition. Despite the urban setting, the presence of flammable vegetation poses a persistent fire hazard in the City and the surrounding area.

4.15.1.1 Wildfire Hazards

Threat from wildfire hazards is determined based on several factors, including fuel loading (vegetation); topography; climatic conditions, such as wind, humidity, and temperature; and the proximity of structures and urban development to fire hazards. Wildland fire hazards are most pronounced in wildland-urban interface areas, or where urban development is located close to open space areas where vegetation can serve as fuel. Generally, the periods of greatest risk for wildland fire are the late summer and early fall when vegetation is at its driest. Human activity, including residential and agricultural burning, campfires, and the use of fireworks can all trigger fires. Natural causes such as lightning strikes may also start fires.

To assist each fire agency in addressing its responsibility area, CAL FIRE uses a severity classification system to identify areas or zones of severity for fire hazards within the state. CAL FIRE is required to map these zones, which include moderate, high, and very high fire severity zones that were developed for community planning and real estate disclosure purposes and are meant to help limit wildfire damage to structures through planning, prevention, and the application of risk reduction measures. The mapped areas, or "zones," are based on factors such as fuel (e.g., flammable vegetation), slope, and fire weather. As shown in Figure 4.7-2 and detailed in Table 4.15-1, most of the City consists of urban areas that are not designated as a fire severity zone. Approximately 11,915 acres (approximately 28.22 percent) of the City are mapped as Very High Fire Hazard Severity Zone (FHSZ). The topography of the foothills of the Santa Ana Mountains and San Joaquin Hills in the City is extremely conducive to wildfires. The community is bordered by natural, undeveloped hillsides and mountains to the northeast and open space areas to the southwest. Most development within the City is located between these two areas. Approximately 11,915 acres of these natural, undeveloped areas are classified as Very High FHSZ by CAL FIRE. In the northeastern portion of the City, this zone extends throughout the Santa Ana Mountain range, which extends into Riverside County to the east. Additionally, approximately 1,875 acres of land located in Focus Area 3 are classified as Very High FHSZ by CAL FIRE.

Table 4.15-1 Fire Hazard Severity Zone Acreages		
Row Labels	Acres	Percentage
Moderate	-	-
High	-	-
Very High	11,915	28.22
No Rating	30,305	71.78
TOTAL	42.220	100

4.15.1.2 History of Wildfire

The City's Local Hazard Mitigation Plan (LHMP) documented past wildfire events as detailed in Table 4.15-2 below.

Table 4.15-2 History of Fire in the City and Surrounding Areas		
Year	Fire Name	Fire Description
2020	Silverado Fire	On October 26, 2020, sustained winds of 45 miles per hour (mph) with gusts to 75 mph, prompted a vegetation fire to erupt off Santiago Canyon Road and Limestone Ridge. Approximately 33 percent of the City was evacuated, but no structures were lost or damaged.
2017	Canyon Fire	A 2017 wildfire that burned in the Anaheim Hills area of Orange County. In total the fire burned 9,217 acres, destroyed 25 structures and damaged another 55. In total, 16,570 people were evacuated from their homes in Anaheim, Orange, and Tustin.
2008	Freeway Complex Fire	A 2008 wildfire that burned parts of Yorba Linda, Anaheim, Brea, Chino Hills, and Diamond Bar. Over 30,000 acres were burned destroying 314 homes, 43 outbuildings, and 4 commercial structures. No fatalities were reported during this event.
2007	Santiago Fire	Began on October 21, 2007, in the foothills north of the City and east of the City of Orange. Over 28,000 acres were burned, resulting in the destruction of 14 homes and 24 outbuildings. No fatalities were reported during this event.
1998	Blackstar/Santiago Canyon Fire	The Blackstar/Santiago Canyon Fire required precautionary activation of the Orange County Emergency Operations Center as smoke threatened the wildland/urban interface.
1997	Baker Canyon Fire	In 1997, the Baker Canyon fire just east of the City, burned 6,317 acres of vegetation. Strong Santa Ana winds prompted a decision to evacuate the City's Northwood community.
1993	Laguna Beach Firestorms	The Laguna Beach firestorms burned 400 acres of explosive hillside brush and chaparral in the City. Although no structures were destroyed, 4,000 people were evacuated to local shelters overnight.
1889	Santiago Canyon Fire	Dating back to 1889, this massive wildfire is one of the largest in the state's history. Totaling at least 300,000 acres, the conditions that contributed to the fire included a much longer and more severe annual drought than usual.
SOURCES: City of Irvine 2020, 2022.		

4.15.1.3 Wildfire Preparedness

a. Service and Response

Details of fire protection services are provided in Section 4.12.1.1 of this Program Environmental Impact Report (PEIR). The following is a summary as it relates to wildfire preparedness.

Wildfire preparedness and education within the City is a joint effort between the Irvine Police Department's Office of Emergency Management, the City's Open Space and Wildland Management program, and the Orange County Fire Authority (OCFA). However, OCFA is the primary response agency for fires and provides a full range of fire prevention services including public education, code enforcement, plan check and inspection services for new and existing construction, and fire investigation.

OCFA has established a target response time of 5 minutes from dispatch to arrival for 80 percent of calls for first-in engines to arrive on-scene to medical aids and/or fires and first-in truck companies should arrive on-scene to fires within 12 minutes, 80 percent of the time.

Existing and proposed fire stations are shown on Figure 4.12-1 presented in Section 4.12 of this EIR. The 2023 Unit Strategic Plan outlines goals and strategies for fire protection services throughout the City, including facility needs and improvements, training requirements, and disaster preparedness.

4.15.2 Applicable Regulatory Requirements

4.15.2.1 Federal Regulations

a. Disaster Mitigation Act

The Disaster Mitigation Act of 2000 requires that a state mitigation plan, as a condition of disaster assistance, add incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans: "Standard" and "Enhanced." The Disaster Mitigation Act also established a new requirement for local mitigation plans. It states that jurisdictions that wish to be eligible for federal hazard mitigation grant funding must prepare a hazard mitigation plan that meets a certain set of guidelines and submit this plan to the Federal Emergency Management Agency (FEMA) for review and approval. These guidelines are outlined in the Code of Federal Regulations, Title 44, Part 201.

4.15.2.2 State Regulations

a. California Wildland-Urban Interface Code

On September 20, 2005, the California Building Standards Commission approved the Office of the State Fire Marshal's emergency regulations amending the California Building Code (CBC) (California Code of Regulations [CCR] Title 24, Part 2). Chapter 7A of the CBC includes regulations addressing

materials and construction methods for exterior wildfire exposure and applies to new buildings located in state responsibility areas or fire severity zones in local response areas.

b. California Fire Code

The 2022 California Fire Code (Fire Code; CCR Title 24, Part 9) establishes regulations to safeguard the public health, safety, and general welfare from hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas. The City has adopted the Fire Code as Title 5, Division 9, Chapter 1 the Municipal Code.

c. California Public Resources Code

Public Resources Code Section 4201-4204 and Government Code Section 51175-89

Public Resources Code (PRC) Section 4201-4204 and Government Code Section 51175-89 requires CAL FIRE to map areas of significant fire hazards and identifies fire hazard severity zones within the state. Fire hazard severity zones are identified as very high, high, and medium. Local agencies are required to designate very high fire hazard severity zones within their jurisdiction.

Public Resources Code Section 4125-4137

PRC Section 4125-4137 establishes a process for the state to identify lands that are state responsibility area fire severity zones and procedures associated with such areas.

Public Resources Code Sections 4290 and 4291

PRC Sections 4290 and 4291 require local jurisdictions to make specified findings that a subdivision is consistent with fire safety and defensible space regulations, and that fire protection and suppression services are available for the subdivision (Government Code Section 66474.02), before approving a tentative subdivision map or parcel map (for which a tentative map was not required) within a state responsibility area fire severity zone. Furthermore, regulations provide that local jurisdiction shall provide to CAL FIRE notices of applications for building permits, tentative parcel maps, tentative maps, and installation or use permits for construction or development within an area designated as a very high fire severity zone. These regulations do not require findings for these notices of applications.

d. California Government Code

Senate Bill 379 California Government Code Section 65302 (g)(4)

California Government Code Section 65302 (g)(4), also known as Senate Bill (SB) 379, requires that the safety element of a community's general plan address the hazards created or exacerbated by climate change. The safety element must identify how climate change is expected to affect hazard conditions in the community and include measures to adapt and be more resilient to these anticipated changes.

Because the LHMP can be incorporated into the safety element, including these items in the LHMP can satisfy the state requirement. SB 379 requires that climate change be addressed in the safety element when the LHMP is updated after January 1, 2017, for communities that already have an LHMP, or by January 1, 2022, for communities without an LHMP.

4.15.2.3 Local Regulations

a. Existing General Plan (2000)

The current Safety Element's guidelines concerning wildland fire hazards encompass policies aimed at establishing fuel modification standards (Policy J-1 [c]) and mandating the review of new development proposals by OFCA (Policy J-1 [e]). The current Public Facilities and Services Element reinforces OCFA service standards, aligned with National Fire Protection Association guidelines, covering responses for fire and basic life safety, advanced life support, and other service priorities. Additional regulations are outlined in the City's Municipal Code, Zoning Ordinance, Building Code, and OCFA plans. The current general plan includes updated mapping in compliance with SB 1241, conducted concurrently with the previous housing element. However, the Board of Forestry and Fire Protection only implemented SB 1241 regulations in full in 2015. Subsequent guidelines from the Board and OPR General Plan Guidelines will necessitate revisions to the Irvine General Plan Safety Element, which will be reflected in the General Plan Update.

The existing General Plan Safety and Seismic elements include the following objectives and policies related to wildfire and associated risks:

Safety Element

Objective J-1. Hazard Occurrence. Identify actions that the City, in concert with other jurisdictions, must take to reduce the probability of hazard occurrence.

- Policy (c): Establish criteria for land development in hillside areas with emphasis on fire retardant materials, minimization of exposure risk to wildfire and adjacent structure fires, provision of access for fire fighting personnel and equipment, and removal of combustible vegetation.
- Policy (e): Require development proposals to be reviewed by the Orange County Fire Authority to ensure adequate fire protection and precautions occur.

Objective J-2. Disaster Response. Identify actions that the City, in conjunction with other jurisdictions, must take to reduce the severity of disasters.

- Policy (a): Ensure that developments will be properly served by police and fire service.
- Policy (b): Ensure that each development will have adequate emergency ingress and egress.
- Policy (c): Phase the timing of development in relation to the City's ability to provide police and fire service.
- Policy (d): Continue to maintain and implement the City of Irvine's Emergency Plan.

Seismic Element

Objective D-1. Potential Hazards. Take potential environmental hazards into account in the General Plan.

- Policy (a): Identify the locations of potential seismic hazards to minimize the effects of the potential hazard through special development constraints. Conduct a research program to develop more refined boundaries for seismic response areas, particularly for Seismic Response Area 1.

Objective D-2. Response to Hazards. Require appropriate measures to protect public health and safety and to respond to seismic hazards in all public and private developments.

- Policy (g): Require a detailed geological and soils study as needed, in accordance with the requirements of the City's Subdivision Ordinance, before approving development.
- Policy (h): Continue to require structures to conform to the seismic design requirements found in the Uniform Building Code.
- Policy (i): Ensure that the most recent adopted seismic standards are used for new construction.

b. Municipal Code

The City regulates building safety and fire code through specific requirements in its Municipal Code. The following are sections of the Municipal Code that are relevant to the project related to wildfire and associated risks:

Title 5 (Planning), Division 9 (Building Regulations)

The City adopted and amended California's building, residential, and fire codes, and amended the state code with local considerations. Refer to Chapter 1 Adoption of Building and Fire Code and Chapter 4 Amendments to Building and Fire Code Technical Regulations of Division 9 (Building Regulations).

c. Zoning Ordinance

Chapter 5-2 (Floodplain District)

In all areas of special flood hazards, development would be required to be constructed with standards identified in Section 5-2-24 (Standards of construction for flood hazard zones) of the Zoning Ordinance, which include anchoring, constructing new development with materials and utility equipment resistant to flood damage below base floodplain elevations, using methods and practices that minimize flood damage, and with adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures. Upon the completion of the structure, the elevation of the lowest floor, including basement, shall be certified by a registered professional engineer or surveyor, and verified by the City's Chief Building Official, to be properly elevated. Such certification or verification shall be provided to the Floodplain Administrator.

d. Planning Commission Resolution No. 09-2968

Standard conditions are adopted by Planning Commission Resolution No. 09-2968. These conditions assist staff in applying standardized wording for frequently used conditions of approval for discretionary and subdivision applications. Standard conditions are applied on a case-by-case basis depending upon the specifics of the application. Companion conditions are cross-referenced and are required to be used together. The following standard conditions related to hazards and hazardous materials apply:

City Standard Condition 2.19 (Open Space Fuel Modification)

Prior to issuance of precise grading permits for any lots adjacent to open space, the applicant shall submit a fuel modification plan prepared to the satisfaction of the Director of Community Development for review and approval, in consultation with the Director of Community Services. The fuel modification plan shall be approved by OCFA. The requirements set forth in this condition do not apply to developed, irrigated park land required or provided as part of the project design for this project.

City Standard Condition 3.14 (HOA/Fuel Modification)

Prior to the issuance of building permits for any dwelling units on lots located adjacent to or within fuel modification zones, the applicant shall provide evidence that there is a requirement included in the CC&Rs that any changes to plant materials located within fuel modification zones must be approved by the Director of Community Development and be consistent with applicable OCFA requirements. For fuel modification zones adjacent to lands designated as Open Space, changes in plant materials shall also be reviewed by the Director of Community Services.

Standard Condition 3.17 (Emergency Access Plan)

Prior to the issuance of the first building permit, the applicant shall submit and have approved by the Chief of Police an Emergency Access Plan, which identifies and locates all Knox Boxes, Knox key switches, and Click2Enter radio access control receivers. Said plan shall be incorporated into the plan set approved for building permits.

City Standard Condition 4.9 (Emergency Access Inspection)

Prior to authorization to use, occupy, and/or operate, the applicant shall arrange for and have passed an inspection, to be performed by the Police Department and the OCFA, to ensure compliance with the Emergency Access Plan requirements. The inspector shall verify test acceptance and locations of all Knox boxes, key switches as depicted on the approved plan.

City Standard Condition 2.11 (Special Flood Hazard Area)

Prior to the issuance of a precise grading permit for any lot or parcel wholly or partially located within the Special Flood Hazard Area (SFHA, FP 2 District), the applicant shall submit one of the following:

a) The final approved Letter of Map Revision (LOMR) to the Flood Plain Administrator, as designated by the City Engineer; or
b) Preliminary Elevation Certificates (North American Vertical Datum [NAVD] 1988) for each proposed structure based on construction documents to the Chief Building Official; or
c) For non-residential construction only, a preliminary Floodproofing Certificate based on construction documents to the Chief Building Official.

City Standard Condition 3.4 (Special Flood Hazard Area)

Prior to the issuance of a building permit for any structure wholly or partially located within the floodplain (FP 2 District) of the Special Flood Hazard Area (SFHA), the applicant shall submit one of the following:

a) The final approved Letter of Map Revision (LOMR) to the Flood Plain Administrator, as designated by the City Engineer; or
b) Preliminary Elevation Certificates (based on North American Vertical Datum [NAVD] 1988) for each proposed structure based on construction documents to the Chief Building Official; or
c) For non-residential construction only, a preliminary Floodproofing Certificate for each building or structure based on construction documents showing floodproofing measures complying with adopted codes and standards and approved by the Chief Building Official.

City Standard Condition 4.5 (Flood Certification for Finished Construction).

Prior to authorization to use, occupy, and/or operate, for any structure wholly or partially located within the Special Flood Hazard Area (SFHA, FP 2 District), the applicant shall submit one of the following:

a) The final approved Letter of Map Revision (LOMR) to the Flood Plain Administrator, as designated by the City Engineer; or
b) Final Elevation Certificates (based on North American Vertical Datum [NAVD] 1988) for each structure based on finished floor construction to the Chief Building Official; or
c) For non-residential construction only, a final Floodproofing Certificate for each building or structure based on completed construction.

e. Local Hazard Mitigation Plan

The City's LHMP (2020) provides a comprehensive assessment of the threats posed by natural and human caused hazard events and includes coordinated strategy to reduce those threats. The LHMP is designed to identify the City's hazards, including threat of wildfire, especially for those portions of the City that are mapped within high fire hazard areas. The LHMP includes strategies for the minimization of damage from wildfires including the identification of high fire risk areas. The LHMP also contains the City's evacuation plan including the identification of evacuation centers and evacuation map.

f. Emergency Operations Plan

The City's Emergency Operations Plan (EOP; 2022) provides a resiliency framework for the City to prepare for, respond to, recover from, and mitigate against all hazards including natural, human-caused, and technological disasters, and national security emergencies. It includes an overview of operational concepts, identifies components of the City's emergency management organization consistent with the Standardized Emergency Management System and the National Incident Management System, and describes the overall responsibilities of federal, state, and county entities, and the City for protecting life and property and assuring the overall well-being of the population. The plan identifies wildfire as a potential risk to life and property and identifies areas of concern. The plan provides a threat assessment and develops an approach to combatting wildfire, alerting, and warning, shelter and mass care, donation management, volunteer management, evacuation, damage assessment, as well as preventive measures.

g. Orange County Fire Authority 2023 Unit Strategic Fire Plan

The OCFA 2023 Unit Strategic Plan addresses such topics as firefighter and public safety, Wildland Urban Interface challenges, impactful cost-effective solutions, community preparedness, prioritization, collaborative partnerships, program, project and policy evaluation and adaptability.

h. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the proposed project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the project and will help to reduce and avoid potential impacts related to wildfires:

- PPP Wildfire-1: Compliance with City Standard Condition 2.19 (Open Space Fuel Modification)
- PPP Wildfire-2: Compliance with City Standard Condition 3.14 (HOA/Fuel Modification)
- PPP Wildfire-3: Compliance with City Standard Condition 3.17 (Emergency Access Plan)
- PPP Wildfire-4: Compliance with City Standard Condition 4.9 (Emergency Access Inspection)
- PPP Wildfire-5: Compliance with City Standard Condition 2.11 (Special Flood Hazard Area)
- PPP Wildfire-6: Compliance with City Standard Condition 3.4 (Special Flood Hazard Area)
- PPP Wildfire-7: Compliance with City Standard Condition 4.5 (Flood Certification for Finished Construction)

Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed goals, objectives, policies, and implementation actions are applicable to the analysis of wildfire and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Safety Element

Goal 1: Protect and prepare the community for natural and human-caused hazards.

Objective S-1. Hazard Preparedness and Occurrence:

- **Policy (a):** Expand participation in the Irvine Community Emergency Response Team (CERT) program for residents and businesses, including offering training in a variety of languages.
- **Policy (b)**: Coordinate with Caltrans and Orange County Transit Authority for inspection and maintenance of primary evacuation routes.
- **Policy (c)**: Coordinate with regional transit providers to identify alternative routes, stops, and modes of transit if normal infrastructure is damaged or closed as a result of extreme events.
- **Policy (d)**: Encourage collaboration with local and regional partners to support business resiliency through preparedness education, trainings, and resources.
- **Policy (e)**: Update the City's Local Hazard Mitigation Plan every five years, to ensure consistency and relevancy of hazards and issues within the City, and to maintain consistency with State and/or federal legislation.
- **Policy (f)**: Update the Irvine Power Outage Response Plan (annex to the Emergency Operations Plan) to identify back-up energy technologies that are more resilient to climate impacts and communications locations for critical facilities, critical infrastructure (e.g., traffic signals), sensitive uses, and community lifelines (including water, sewer, telecommunications).
- **Policy (g)**: Continuously update response procedures for first responder departments to properly address new hazard events as they emerge.
- **Policy (h)**: Encourage community members to sign-up for disaster alerts.
- **Policy (i)**: Identify opportunities to expand access to emergency and evacuation notices via multiple sources, including voice, text, siren, radio, and outdoor broadcasts.
- **Policy (j)**: Increase understanding of all energy storage technologies including critical features such as storage capacity, efficiency, duration of power, lifestyle impacts, and realistic function to provide long-term, reliable sources of power during grid outages.

Goal 2: Improve the community's resilience to seismic and geologic hazards by ensuring the integrity of the built environment.

Objective S-2. Seismic and Geologic Hazards

- **Policy (a)**: Coordinate with Irvine Ranch Water District and Orange County Water District on emergency water storage and distribution following a liquefaction or landslide event.
- **Policy (b)**: Coordinate groundwater management with Orange County Water District to avoid subsidence impacts in Irvine.
- **Policy (c)**: Promote the strengthening of planned utilities, the retrofit and rehabilitation of existing weak structures and lifeline utilities, and the relocation or strengthening of certain

critical facilities to increase public safety and minimize potential damage from seismic and geologic hazards.
- **Policy (d)**: Encourage replanting bare or disturbed areas after landslides to reduce erosion.

Goal 3: Anticipate the risks and mitigate the effects that flood hazards pose to the community.

Objective S-3. Flood Hazards

- **Policy (a)**: Work with Orange County Flood Control District to ensure flood control facilities are adequately provided and maintained.
- **Policy (b)**: Collaborate with partner agencies and municipalities to align green infrastructure projects (i.e., projects that allow for filtration of stormwater where it falls) and develop regulations for watersheds across jurisdictions to reduce impervious hard surfaces.
- **Policy (c)**: Support efforts of other organizations and academic institutions to conduct studies of the impact combined riverine and coastal flooding, groundwater intrusion, and increased precipitation has on flood risk and vulnerability.
- **Policy (d)**: Support efforts of other organizations and academic institutions to inventory and map vegetation on hillsides with a specific focus on improving hillside stability in the case of extreme rainfall and seasonal erosion.
- **Policy (e)**: Develop or update a long-term plan to address current and future flood risk to critical facilities.
- **Policy (f)**: Continue to partner with Orange County Public Works to proactively disseminate information from the "H2OC Stormwater Program" to educate home and small business owners on regulations and highlight the role that engaged residents can play to assist with community-based stormwater management.
- **Policy (g)**: Ensure resilience and long-term functionality of stormwater and sewer systems.
- **Policy (h)**: Encourage the use of climate-smart landscaped surfaces (e.g., permeable pavement, stormwater parks, green streets) in new and existing development to reduce runoff, minimize flood hazards, and maintain existing drainageways.
- **Policy (i)**: Continue to encourage the implementation of low-impact development (e.g., rain gardens and rainwater harvesting) to reduce flood risk, filter pollutants, and replenish groundwater over time.
- **Policy (j)**: Continue to promote the application of nature-based solutions (e.g., greenways, tree trenches) to improve resilience and preserve biodiversity.
- **Policy (k)**: Coordinate with other agencies to increase the public awareness of flooding, stormwater management, and drought management issues and techniques for residents to mitigate those challenges on their property.

Goal 4: Safeguard the community from the threat of urban and wildfire hazards.

Objective S-4. Wildfire Hazards

- **Policy (a):** Coordinate with regional partners to explore and deploy fire detection cameras as part of a wildfire monitoring network.
- **Policy (b):** Coordinate with surrounding municipalities and Orange County to enhance evacuation and emergency management protocols, agreements, and processes.

- **Policy (c):** Coordinate with City of Irvine and Orange County Fire Authority first responders to create a rapid response plan to secure hospital, nursing, and assisted living facilities, especially those located within fire hazard severity zones.
- **Policy (d):** Work with the Irvine Ranch Water District to ensure the long-term integrity of water supplies for the City.
- **Policy (e):** Continue to work with the Orange County Health Care Agency Department of Public Health and other applicable health care agencies to convey notifications to the public regarding recommendations for outdoor activities, cancelled sporting events, and other recommendations for public health and safety during periods of poor air quality.
- **Policy (k):** Ensure that all new development and redevelopment in the Very High Fire Hazard Severity Zone is developed in compliance with minimum structural fire protection standards in the adopted edition of the California Fire and Building Codes, applicable state or local fire safety and defensible space regulations or standards, and any applicable fire protection or risk reduction measures identified in locally adopted plans. (See Action J-4-8 and Action J-4-15)
- **Policy (l):** Ensure future neighborhoods are designed with adequate fire access and evacuation egress in the event of an emergency. (See Action J-4-9)
- **Policy (m):** Avoid expanding new residential development, essential public facilities, and critical infrastructure in areas subject to extreme threat or high risk, such as Very High Fire Hazard Severity Zones, or areas classified by the California Department of Forestry and Fire Protection as having an Extreme Threat classification on Fire Threat Maps, unless all feasible risk reduction measures have been incorporated into project designs or conditions of approval. Example risk reduction measures include, but are not limited to, fuel modification zones or defensible space, structure hardening, enclosed foundations, and highly visible street signs and property addresses.
- **Policy (n):** Ensure adequate water supply for fire suppression and ensure that the water supply is protected from wildfire impacts, including providing back-up power, with priority for solar and battery storage back-up supplies.
- **Policy (o):** Ensure future neighborhoods are designed with sufficient water pressure to maintain fire flow. (See Action J-4-8 and Action J-4-16)
- **Policy p):** Encourage the use of underground power lines for new developments.
- **Policy (q):** Ensure that private development subject to the California Environmental Quality Act evaluate hazard impacts to ensure adequate evacuation in the event of an emergency, and if required, develop standards for the protection of the community.
- **Policy (r):** Review development proposals and coordinate with regional transportation agencies to ensure that multiple evacuation routes are available under a range of scenarios and identify alternative routes that are accessible to people without life-supporting resources.
- **Policy (s):** Coordinate with fire protection, emergency service, and water providers to reassess fire hazards and future availability of water supplies after wildfire events to adjust fire prevention and suppression needs, as necessary, for both short- and long-term fire prevention.
- **Policy (t):** Coordinate evaluations for redevelopment of areas that have been burned after a large fire.
- **Policy (u):** Continue the long-term maintenance of fire reduction projects; including but not limited to, a roadside fuel reduction plan, defensible space clearances (including fuel beaks)

around structures, subdivisions, and other development in the Very High Fire Hazard Severity Zone.
- **Policy (v):** Maintain established response time standards for fire and life safety service.
- **Policy (w):** Encourage the continued development, implementation, and public awareness of fire prevention programs.

4.15.3 Significance Determination Thresholds

The City has adopted Appendix G of the State California Environmental Quality Act (CEQA) Guidelines as the significance thresholds for wildfire. A project would normally have a significant effect on the environment if the project would:

1) Substantially impair an adopted emergency response plan or emergency evacuation plan;

2) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;

3) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or

4) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

4.15.4 Methodology

The potential for significant impacts associated with the project has been determined based upon review of existing secondary source information and data relative to wildfires available for the City.

4.15.5 Topic 1: Emergency Response Plans

Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

4.15.5.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's Regional Housing Needs Assessment (RHNA) requirement, nonresidential uses within the Great Park, continued development of nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Consistent with the Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California Environmental Quality Act Memorandum (Bonta Memo) (State of California Office of the Attorney General 2022), the City has assessed potential project impacts with respect to wildfire. Under Section IV C. Analyzing the Project's Impact on Evacuation and Emergency

Access, the Bonta Memo notes that a lead agency would be best positioned to ensure that a proposed development project facilitates emergency access and ease constraints on evacuation with an assessment of evacuation modelling and planning prior to project approval. As several historical wildfires in the Santa Ana Mountains and San Joaquin Hills have impacted Irvine, resulting in evacuations and indirect effects from smoke and traffic congestion, the City has prepared an Emergency Evacuation Route Analysis as part of the Safety Element to assess the impacts of buildout of the project on emergency access and evacuation. Figure 4.15-1 presents residential evacuation routes identified in the City.

Both the updated Safety Element and the 2022 EOP Evacuation Annex (City of Irvine 2019) include the Evacuation Zones Map for the City and are key resources in identifying emergency evacuation routes in the community based on evacuation zones. The Evacuation Zones Map in the EOP identifies appropriate evacuation routes based on pre-identified community areas (evacuation management zones) that may be evacuated in phases, but acknowledges that routes may not necessarily be used during an evacuation as circumstances may dictate alternate routes. Authorities would jointly determine evacuation routes and traffic flow direction based on incident circumstances. The 2020 LHMP (City of Irvine 2020) and the updated Safety Element also provide a comprehensive assessment of the threats the City faces from natural and human-caused hazard events and identifies a coordinated strategy to reduce the impacts of these threats to the City.

The Emergency Evacuation Route Analysis both in the LHMP and in the Safety Element build upon the evacuation management zones and LHMP and identify potential vulnerabilities in the City in the event of a wildfire. Evacuation route viability is largely determined by the location of the hazard. Because Irvine is surrounded by Very High FHSZs to the south, northeast, east, and north/northwest, the City considered the following four wildfire scenarios: (1) a fire originating in the south, (2) a fire originating in the northeast, (3) a fire originating in the east, and (4) a fire originating in the northwest. Residential parcels lacking at least two points of egress were also identified in the Emergency Evacuation Route Analysis to further identify potential vulnerabilities in Irvine. The results of the analysis indicate that residents closest to the southern, northern, and eastern extents of the City are most vulnerable given the distance and number of roads needed to access an outbound road. However, the City has identified adequate evacuation routes in various wildfire scenarios for the vulnerable residents because of modelling and would continue to identify evacuation locations on-site during emergency situations. Furthermore, consistent with Objective S-4 and Policy S-4(l), the City would ensure that future neighborhoods are designed with adequate fire access and evacuation egress in the event of an emergency. Prior to construction, future development projects would also be required to prepare and submit a plan check to the City for approval of adequate emergency access. Approval of new development throughout the City would be conditioned by Standard Condition 3.17 and Standard Condition 4.9 for review by the Irvine Police Department and OCFA to ensure adequate emergency access and compliance with the Emergency Access Plan requirements. Future development would also be designed, constructed, and maintained in accordance with applicable standards associated with the EOP and Emergency Access Plan, including vehicular access to ensure that adequate emergency access and evacuation would be maintained. This is consistent with Action S-4(6) of the updated Safety Element, which requires the City to continue to involve the Orange County Fire Authority in the review of development applications to minimize fire hazards.

Map Source: Harris & Associates

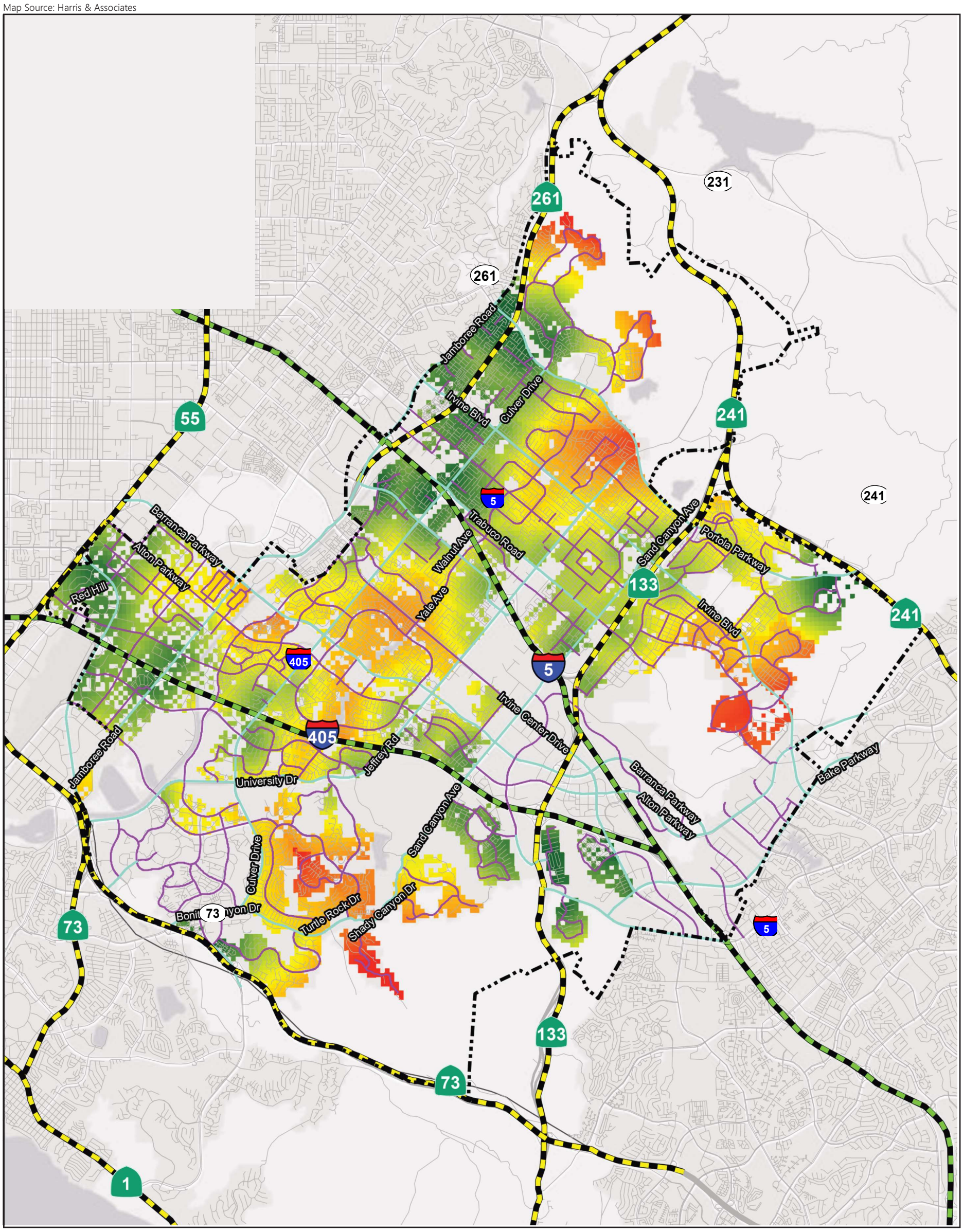

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FIGURE 4.15-1
Residential Evacuation

Policy S-4(r) would also require the City to review development proposals and coordinate with regional transportation agencies to ensure that multiple evacuation routes are available under a range of scenarios and identify alternative routes that are accessible to people without life-supporting resources. The City's Safety Element also includes Policy S-4(q), which further requires that private development subject to the CEQA evaluates hazard impacts to ensure adequate evacuation in the event of an emergency, and if required, develop standards for the protection of the community. Furthermore, the Safety Element Update would include the objectives and policies that would further support the City's goal of providing adequate emergency response. For example, Objective S-1 aims to protect and prepare the community for natural and human-caused hazards, with supporting policies aimed at improving the City's response to such hazards (including wildfires). Therefore, because buildout of the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, impacts would be less than significant.

4.15.5.2 Significance of Impacts

Impacts would be less than significant. No mitigation is required.

4.15.5.3 Mitigation

Impacts would be less than significant. No mitigation would be required.

4.15.6 Topic 2: Wildfire

Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

4.15.6.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

As shown in Figure 4.7-2, most of the City consists of urban areas that are not designated as a fire severity zone. There is no land within Focus Areas 1 and 2 that are designated with a fire severity rating. Although approximately 1,875 acres of land located in Focus Area 3 is designated as Very High FHSZ, future housing development would not be located within this area of Focus Area 3. In the unlikely case that development near this area did occur, it would be designed to be consistent with all applicable fire safety requirements. Future development and redevelopment could also occur outside of the proposed focus areas, which may be located along the City boundaries adjacent to land identified as having Moderate, High, or Very High FHSZ designations. For instance, areas within the northeastern portion of the City, which extends through Orange County and into Riverside County to the east, are designated as Very High FHSZ. However, all new site-specific development in these areas is required to prepare a fuel modification plan before approval of tentative maps and grading permits, per City Standard Condition 2.19 Open Space Fuel Modification and Standard

Condition 3.14 HOA/Fuel Modification (PPPs Wildfire-1 and Wildfire-2). Furthermore, the Safety Element Update would include objectives and policies related to preventing and minimizing impacts that would further support the City's goal of responding to, and minimizing the effects of, wildfires. For example, Goal S-4 aims to safeguard the community from the threat of urban and wildfires with supporting policies aimed at improving responses to wildfires and using design techniques (such as fuel modification zones) to prevent urban and wildfires. Therefore, the project would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, and impacts would be less than significant.

4.15.6.2 Significance of Impacts

Impacts would be less than significant. No mitigation is required.

4.15.6.3 Mitigation

Impacts would be less than significant. No mitigation would be required.

4.15.7 Topic 3: Infrastructure

Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

4.15.7.1 Impact Analysis

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, continued development of nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway. Implementation of the Ada roadway extension would serve to improve circulation within this area of the City, which would improve emergency evacuation activities in the event of an emergency, including a fire.

As described in Section 4.14.5, utility infrastructure improvements that are anticipated to serve future development facilitated by the General Plan Update and buildout of the Great Park would be available in adjacent roadways. Per City Standard Condition 4.9 Emergency Access Inspection, the Police Department and the OCFA would ensure compliance with the Emergency Access Plan requirements which may result in the potential inclusion of new roadways with subsequent projects that would result in impacts to the environment or that may exacerbate fire risk. However, all impacts associated with infrastructure improvements, including any required measures to address fire safety, would be evaluated in their respective subsequent environmental documents for discretionary projects, including application of the City's Municipal Code and existing City building and fire code requirements. As detailed in Section 5-9-401 of the Municipal Code, new buildings located in any FHSZ or any Wildland-Urban Interface Fire Area would be subject to the materials and construction methods detailed in Chapter 7A of the CBC to reduce risks associated with wildfire exposure and would have a fuel modification plan reviewed and submitted to a Fire Code Official prior to approvals and permit issuance. This is consistent with City Standard Condition 2.19 Open Space Fuel

Modification, Standard Condition 3.14 HOA/Fuel Modification Standard Condition 3.17 Emergency Access Plan, and Standard Condition 4.9 Emergency Access Inspection (PPPs Wildfire-1 through Wildfire-4). All new development would also be subject to review to ensure that adequate defensible space and fuel management zones would be implemented to avoid potential ignition risks around the associated infrastructure, such as power lines or other utilities. Furthermore, the Safety Element Update would include objectives and policies further supporting the City's goal of ensuring adequate infrastructure with respect to wildfires. For example, Goal SE S-4 aims to safeguard the community from wildfire impacts, with supporting policies aimed at ensuring that new development within areas prone to wildfires are designed in a manner that such impacts would be minimized. Therefore, compliance with applicable PPPs would ensure that installation or maintenance of associated infrastructure associated with the project would not exacerbate fire risk, and impacts would be less than significant.

4.15.7.2 Significance of Impacts

Impacts would be less than significant. No mitigation is required.

4.15.7.3 Mitigation

Impacts would be less than significant. No mitigation is required.

4.15.8 Topic 4: Flooding or Landslide

Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

4.15.8.1 Impact Analysis

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

As described in Section 4.8 above, future development would be required to demonstrate that site-specific projects would be elevated out of the floodplain and would not affect the conveyance of flood waters through elevated building pads, and/or other compliance measures as specified by FEMA. City Standard Condition 2.11 (Special Flood Hazard Area), 3.4 (Special Flood Hazard Area), and 4.5 (Flood Certification for Finished Construction) (PPPs Wildfire-5 through Wildfire-7) would require that prior to the issuance of a precise grading permit for any lot or parcel within a FHSZ, the Floodplain Administrator and Chief Building Official would be sent a final approved Letter of Map Revision, Preliminary Elevation Certificates, and/or a floodproofing certificate. This would reduce risks associated with flooding. Moreover, local guidance prohibits development within a flood zone unless adequate assurances are provided against flood hazards (see Zoning Ordinance Section 5-2-24 Standards of construction for flood hazard zones). These include anchoring structures, constructing structures with materials and utility equipment resistant to flood damage, constructing the structure above the base flood elevation, and certification by a registered professional engineer or surveyor, and verification by the City's Chief Building Official. The Safety Element Update also includes

objectives and policies that further support the City's goals related to flood prevention. For example, Goal S-3 aims to anticipate the risks and mitigate the effects that flood hazards pose to the community, with supporting policies aimed at collaborating with local agencies to address flooding potential through long-range plan and infrastructure improvements.

As noted in Chapter 4.5, Geology and Soils, there is the potential for landslides in the steeper portions of the foothills of the Santa Ana Mountains to the northeast of the City and the San Joaquin Hills to the southwest of the City. Even these areas, however, are designated as having a low likelihood of a landslide under other conditions, such as post-fire instability. However, future development under the project would be required to adhere to safety requirements in the Municipal Code requirements related to the City's Building Code, Grading Code, and Grading Manual which would reduce impacts related to landslide to a level less than significant. Furthermore, the updated Safety Element includes Goal 2, which aims to improve the community's resilience to seismic and geologic hazards with supporting policies aimed at coordination with local water agencies to reduce liquefaction and subsidence events and to strengthen utilities to minimize such impacts to local infrastructure. As such, the updated Safety Element would further support the City's goals of addressing seismic hazards, including those related to liquefaction and subsidence, throughout the City and within its infrastructure. Therefore, compliance with applicable PPPs would ensure that the project would not increase risks associated with post-fire flooding or landslides, and impacts would be less than significant. Compliance with and goals, objectives, and policies in the updated Safety Element would serve to further lessen such impacts.

4.15.8.2 Significance of Impacts

Impacts would be less than significant. No mitigation is required.

4.15.8.3 Mitigation

Impacts would be less than significant. No mitigation would be required.

4.15.9 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for wildfire. The study area for the assessment of cumulative impacts related to wildfire is the City. New development throughout the City would be conditioned by Standard Condition 3.17 (Emergency access plan) and Standard Condition 4.9 (Emergency access test) for review by the Irvine Police Department and OCFA to ensure adequate emergency access and to ensure compliance with the Emergency Access Plan requirements. Future development would be designed, constructed, and maintained in accordance with applicable standards associated with the Safety Element Update, LHMP, EOP, and Emergency Access Plan, including vehicular access to ensure that adequate emergency access and evacuation would be maintained. Future development near a wildfire severity zone would be required to prepare a fuel modification plan before approval of tentative maps and grading permits. New development and redevelopment would also need to consider water supply, access, building ignition and fire resistance, fire protection systems and equipment, defensible space, and vegetation management,

and demonstrate consistency with the requirements of CBC Chapter 7A, the International Wildland-Urban Interface Code, and the City Municipal Code. All new development would also be subject to review to ensure that adequate defensible space and fuel management zones would be implemented to avoid potential ignition risks around the associated infrastructure, such as power lines or other utilities. Future development would also be required to demonstrate that they would not increase risks associated with post-fire flooding or landslides. Furthermore, the updated Safety Element includes goals, objectives, and policies addressing wildfires that would further support the City's goals of addressing wildfire events. Therefore, the project would not contribute to a cumulative impact related to wildfires.

Chapter 5.0
CEQA Mandated Analysis

The California Environmental Quality Act (CEQA) Guidelines Section 15126.2(b) and (c) require that the significant unavoidable impacts of the project, as well as any significant irreversible environmental changes that would result from project implementation, be addressed in the Environmental Impact Report (EIR). Additionally, CEQA Guidelines Section 15126.2(e) requires that an EIR evaluate the "growth-inducing" effects of a project. The following paragraphs discuss these mandated topics associated with implementation of the project. The analysis area covers the entire City.

5.1 Significant Environmental Effects Which Cannot Be Avoided if the Project is Implemented

In accordance with CEQA Guidelines Section 15126.2(b) any significant unavoidable impacts of a project, including those impacts that can be mitigated but not reduced to below a level of significance despite the applicant's willingness to implement all feasible mitigation measures, must be identified in the Program Environmental Impact Report (PEIR). Implementation of the project would result in significant, unavoidable impacts associated with the following issues: air quality (air quality plan consistency; criteria pollutants; sensitive receptors), cultural resources (historic resources), geology and soils (paleontological resources), greenhouse gas (emissions; policy consistency), noise (ambient noise; vibration), and transportation (vehicle miles traveled).

These impacts would remain significant and unavoidable as a result of the project. A Statement of Overriding Considerations, consistent with CEQA Guidelines Section 15093, will be prepared for certification with the Final PEIR, identifying specific economic, legal, social, technological, or other benefits of the project which allow approval of the project to outweigh the unavoidable impacts.

5.2 Significant Irreversible Environmental Changes Which Would Result if the Project is Implemented

In accordance with CEQA Guidelines Section 15126.2(d):

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvements which provide access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Nonrenewable resources generally include agricultural land; biological, archaeological, and paleontological resources; mineral deposits; water bodies; and some energy sources. The project has been designed to minimize impacts to sensitive biological resources by primarily focusing future development and redevelopment within the focus areas. These areas are most suited for new growth and development as they are located near existing job centers and are along major travel corridors with access to existing and future public transit opportunities. Furthermore, the project would avoid development within the natural undeveloped portions of Focus Area 3. Focusing development and redevelopment within the urbanized segments of the focus areas would minimize adverse impacts to sensitive species (see Section 4.3). Similarly, focusing future development and redevelopment within the focus areas would minimize impacts on cultural and tribal cultural resources (see Section 4.4).

There exists some potential for paleontological resources to be present within the City, primarily within areas that have been identified as having a high potential for paleontological resources. However, implementation of the paleontological mitigation framework would reduce impacts associated with future grading and development to a less than significant level (see Section 4.5). As described in Section 4.8, implementation of the project would result in less than significant impacts to water bodies (drainage and water quality). Furthermore, the City does not support any mineral extraction activities (see Section 6.0). Therefore, impacts related to mineral resources would be less than significant. Furthermore, while the project would allow for some agricultural properties to be converted to nonagricultural uses, existing agricultural activities on these sites are considered interim uses associated with development limitations related to the former Marine Corps Air Station El Toro and are not designated as Unique, Prime, or Farmland of Statewide Importance. Furthermore, Conservation and Open Space Element Update Objective COS – 7, policy (f) allows for the conversion of interim and permanent agricultural uses to development to provide land for the construction of housing units consistent with the Land Use and Housing elements (see Section 6.0). Therefore, impacts related to agricultural resources would be less than significant.

Actions related to future development would result in an irretrievable commitment of nonrenewable resources, including as energy supplies and construction materials, such as lumber, steel, and aggregate. Nonrenewable energy resources (coal, natural gas, oil) would be used in construction, heating, refrigeration of food and water, transportation, lighting, and other associated energy needs. Residential and mixed-use development anticipated within the focus areas, together with other projects in the City, would require the commitment or destruction of other nonrenewable and slowly renewable resources. These resources include (but are not limited to) lumber and other forested products; sand and gravel; asphalt; petrochemical construction materials; steel, copper, lead, other metals; and water. However, through required compliance with the building code in effect at the time of development, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources.

In summary, construction and operation of future housing sites would result in the irretrievable commitment of limited, slowly renewable, and nonrenewable resources, which would limit the availability of these particular resource quantities for future generations or for other uses. However, the project would update the City's General Plan and Zoning Ordinance to comply with state law and implement the City's Housing Element, which would meet the City's future housing needs and meet the City's Regional Housing Needs Assessment (RHNA) allocation provided by the Southern

California Association of Governments (SCAG). Therefore, use of such resources would not exceed what is already anticipated to occur under SCAG's regional growth forecasts for the City. Therefore, although irreversible environmental changes would result from future development, such changes would not be considered significant.

5.3 Growth Inducement

CEQA Guidelines Section 15126.2(e) requires that an EIR:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (for example, a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population might tax existing community services facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can directly or indirectly induce growth. Construction of new housing would directly induce population growth. However, if a project creates substantial new permanent employment opportunities, it could indirectly induce growth by stimulating the need for additional housing and services to support the new employment demand. It could also indirectly induce growth by removing infrastructure limitations or regulatory constraints on a required public service, such as roads or water service.

5.3.1 Population and Housing Growth

The project does not propose the construction of new housing or other development; rather it provides capacity for future development consistent with state Housing Element Law and regional plans including the SCAG Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy. The California Department of Finance is responsible for developing the total statewide housing demand projection. With the state Department of Housing and Community Development, this demand is apportioned to each of the state's regions. SCAG is responsible for allocating the region's projected new housing demand in each of its member jurisdictions through the RHNA process (see Chapter 3.0, Project Description). The allocation takes into account factors such as market demand for housing, employment opportunities, the availability of suitable sites and public facilities, commuting patterns, type and tenure of housing need, and others. Therefore, the project contains policies and implementation programs that would provide for housing development consistent with the City's share of the regional housing need as identified in the RHNA.

Compared to the 57,656 units proposed under the Conservative Alternative, the Reduced Project Alternative would only propose 42,637 residential units. The 42,637 residential units proposed under

the Preferred Alternative would exceed the City's RHNA allocation of 23,610 units. This exceedance of the RHNA allocation would ensure that the City can continue to provide a buffer in housing units for all income categories and would ensure the City can meet the no net loss provisions of the state Housing Element law throughout the planning period. The project has been designed to primarily focus future development and redevelopment within the focus areas that are most suited for new growth and development as they are located near existing job centers and are along major travel corridors with access to existing and future public transit opportunities. As such, future development under the project would be in developed areas that are already served by infrastructure. Given these conditions and the City's existing development and housing occupancy patterns, it is not anticipated that future housing development facilitated by the project would induce population growth indirectly through extension of roads or other infrastructure. Therefore, the project would accommodate projected future housing needs in the City and would not induce population growth.

5.3.2 Removal of an Impediment to Growth

The project does not propose the construction or expansion of new housing, services, or other infrastructure development; rather it provides for future development consistent with state Housing Element Law. The project has been designed to primarily focus future development and redevelopment within focus areas that are most suited for new growth and development as they are located near existing job centers and are along major travel corridors with access to existing and future public transit opportunities. Future development outside of the focus areas would occur in areas that are already served by infrastructure and would not require extensions into unserved portions of the City. Therefore, future infrastructure development would occur within areas that are already served by essential roads, utilities, and public services, and the project would not remove an impediment to growth.

5.3.3 Foster Economic or Employment Growth

The project does not propose or provide direct development rights to new major retail, commercial or employment centers that would encourage substantial economic or employment growth. Rather, it provides opportunities for housing development in close proximity to existing job centers. New housing would increase the workforce in the City but would not increase substantial amounts of economic or employment growth, as the project does not introduce new employment centers. Therefore, future economic and employment growth associated with the project would not induce growth.

5.4 Conclusion

Overall, the project would not be growth-inducing as it would accommodate projected growth as required by state law. The project would not remove an impediment to growth, nor does it propose to develop, or permit the encroachment into an isolated area adjacent to open space, or foster economic and employment expansion. As discussed above, the project would accommodate projected population growth and would not be considered growth inducing because it would provide housing capacity for projected population growth. The opportunities to provide housing would be consistent with the City's need to establish a resilient housing base for the community and comply with state law.

Chapter 6.0
Effects Found Not to be Significant

Section 15128 of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) briefly describe potential environmental effects that were determined not to be significant, and therefore were not discussed in detail in the EIR. Based on initial environmental review, the City of Irvine (City) determined that the project would not have the potential to cause significant impacts associated with the environmental categories discussed below.

6.1 Agricultural and Forestry Resources

According to CEQA Guidelines Appendix G, a significant impact on agricultural and forestry resources would occur if the project would:

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
2) Conflict with existing zoning for agricultural use, or a Williamson Act contract;
3) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]);
4) Result in the loss of forest land or conversion of forest land to non-forest use; or
5) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

The California Department of Conservation, Division of Land Resource Protection, identified important farmland throughout the state through its Farmland Mapping and Monitoring Program (FMMP). The FMMP is non-regulatory and was developed to inventory land and provide categorical definitions of important farmlands and consistent and impartial data to decision makers for use in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. The FMMP classifies the majority of the City as Urban and Built-Up Land and Other Land. Small amounts of land are classified as Prime Farmland, Unique Farmland, and Farmland of Statewide of Importance (generally located in the northern portion of City and in areas near the Great Park-Planning Area 51), some of which are in active agricultural cultivation. Most of these areas are surrounded by undeveloped land and are not contemplated for development under the project. Furthermore, agricultural uses near the Great Park exist as interim uses due to their adjacency to the former Marine Corps Air Station (MCAS) El Toro air base, which historically limited development on these properties due to potential conflicts with flight paths and air space in these areas. Since the closure of MCAS El Toro, the adopted Housing Element (which is being implemented by the project)

identified a potential housing site on a parcel within the Great Park area that is currently occupied by agricultural uses.

It is important to note that the project itself does not contemplate any confirmed development projects on agricultural sites, including those identified in the adopted Housing Element, but rather would allow for residential uses on nonresidential sites through a new Residential and Residential Mixed-Use Overlay. The overlay would retain all existing land use and zoning designations/classifications on properties throughout the City (refer to Chapter 3.0, Project Description, for more details). Should future projects facilitated by project approval occur on existing agricultural sites, site-specific evaluations would be required in compliance with the CEQA to determine project-specific impacts to agricultural lands.

There is no forest land within the City, and the City does not possess any zoning classifications for forestland, timberland, or timberland production zones. Similarly, there are no lands protected by a Williamson Act Contract within the City. Therefore, impacts to agricultural and forestry resources that would occur as a result of project implementation would be less than significant. Similarly

6.2 Energy

According to CEQA Guidelines Appendix G, a significant impact on energy would occur if the project would:

1) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

2) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The Environmental Protection and Climate Action Element includes the following objectives and policies that would serve to further reduce energy consumption.

Goal 6: Reduce energy consumption and promote energy efficiency in Irvine.

Objective EPCA-6. Achieve significant reductions in per capita energy consumption across residential, commercial, and municipal sectors while promoting the adoption of renewable energy sources and energy-efficient technologies.

- Policy (a): Through the efforts of CALGreen, establish and enforce energy efficiency standards and building codes for new construction and major renovations to improve the energy performance of buildings and reduce energy demand.
- Policy (b): Require energy-efficient building design, insulation, HVAC systems, lighting, and appliances to minimize energy consumption and lower utility costs for residents and businesses.
- Policy (c): Promote the adoption of renewable energy systems, such as solar photovoltaic (PV) panels, wind turbines, and geothermal heat pumps, to generate clean and sustainable electricity for onsite consumption or grid injection.

- **Policy (d)**: Streamline permitting processes and provide incentives, rebates, and financing options to encourage residents, businesses, and municipal facilities to invest in renewable energy installations.
- **Policy (e)**: Implement energy conservation programs and public awareness campaigns to educate residents and businesses about the importance of energy conservation, energy-saving practices, and behavioral changes to reduce energy waste.
- **Policy (f)**: Monitor federal, state, regional, and other local governments, utility companies, Irvine Ranch Water District (IRWD), and other private and public agencies energy programs. Obtain information and technical assistance for energy programs and implement federal and state energy programs.
- **Policy (g)**: Promote energy savings in buildings constructed before 1978.
- **Policy (h)**: Encourage voluntary retrofit energy programs for residential, commercial, and industrial buildings including energy conservation measures.
- **Policy (i)**: Maximize energy efficiency of the City's facilities and operations by use of recycled materials, renewable sources, and conservation measures.

Goal 8: Mitigate the impacts of climate change, enhance resilience, and transition to a climate-resilient community in Irvine.

Objective EPCA-8. Reduce greenhouse gas emissions, adapt to the effects of climate change, and promote climate resilience through comprehensive policies, programs, and initiatives that engage stakeholders, foster innovation, and prioritize equitable and sustainable solutions.

- **Policy (b)**: Encourage the adoption of renewable energy targets, energy efficiency standards, and building codes to promote clean energy adoption, reduce energy consumption, and decarbonize the built environment, while incentivizing the use of renewable technologies and sustainable practices.

Goal 10: Promote sustainable land use practices in Irvine.

Objective EPCA-10. Implement policies and initiatives that prioritize sustainable land management, smart growth principles, and equitable development strategies to ensure the efficient use of land while protecting environmental quality and promoting community well-being.

- **Policy (f)**: Encourage and incentivize the adoption of Leadership in Energy and Environmental Design (LEED) building standards for new construction and major renovations within the City.
- **Policy (g)**: Explore the adoption of green building standards, energy-efficient design guidelines, and sustainable construction practices to reduce greenhouse gas emissions, promote energy conservation, and minimize environmental impacts associated with new development and redevelopment projects.

6.2.1 Construction

Grading and construction activities consume energy through the operation of heavy off-road equipment, trucks, and worker traffic. At the program level, it is too speculative to quantify total construction-related energy consumption of future development, either in total or by fuel type. However, a worst-case project-level construction scenario for a future development occurring because of project implementation is expected to include the development of 1,500 units, with an average size of 670 square feet (small apartments), on a 15-acre site. Emissions associated with this worst-case project were calculated as part of the air quality analysis prepared for the project (Appendix B). Based on CalEEMod model defaults, construction of this project would last approximately 18 months. Fuel consumption associated with on-road worker trips and delivery trips were calculated using EMFAC2021 fuel consumption rates. Fuel consumption associated with on-site construction equipment was calculated using CARB's OFFROAD model. Off-site and on-site fuel consumption that would occur over the entire construction period is summarized in Tables 6-1 and 6-2, respectively.

Table 6-1
Off-site Construction Vehicle Fuel Consumption

Trip Type	Total Vehicle Miles Traveled	Total Fuel Consumption (gallons)		Electricity Consumption
		Gasoline	Diesel	kWh
Workers	6,099,450	207,167	3,903	137,969
Deliveries	2,112	1,089	3,929	297
TOTAL	**6,101,562**	**208,286**	**7,832**	**138,266**

Table 6-2
On-site Construction Equipment Fuel Consumption

Phase	Phase Length (days)	Equipment	Amount	Total Usage Hours	Total Diesel Fuel Consumption (gallons)
Demolition	20	Rubber Tired Dozers	2	320	1,721
		Excavators	3	480	1,424
		Concrete/Industrial Saw	1	160	221
Site Preparation	10	Rubber Tired Dozers	3	240	1,291
		Tractors/Loaders/Backhoes	4	320	702
Grading	30	Excavators	2	480	1,424
		Grader	1	240	1,067
		Rubber Tired Dozer	1	240	1,291
		Tractors/Loaders/Backhoes	2	480	1,052
		Scrapers	2	480	4,217
Building Construction	300	Crane	1	2,100	9,402
		Forklifts	3	7,200	15,809
		Generator Set	1	2,400	5,472
		Tractors/Loaders/Backhoes	3	6,300	13,811
		Welder	1	2,400	3,338

Table 6-2 On-site Construction Equipment Fuel Consumption					
Phase	Phase Length (days)	Equipment	Amount	Total Usage Hours	Total Diesel Fuel Consumption (gallons)
Paving	20	Pavers	2	320	1,039
		Paving Equipment	2	320	1,020
		Rollers	2	320	602
Architectural Coatings	20	Air Compressor	1	210	131
TOTAL					65,034

Energy used during future construction of the project areas is not considered significant given typical energy use associated with the type of development proposed (primarily residential and residential mixed-use projects) and short-term nature of the energy consumption. Consistent with state requirements, all construction equipment would meet California Air Resources Board (CARB) Tier 3 In-Use Off-Road Diesel Engine Standards. Engines are required to meet certain emission standards, and groups of standards are referred to as Tiers. A Tier 0 engine is unregulated with no emission controls, and each progression of standard level (i.e., Tier 1, Tier 2, Tier 3, etc.) generate lower emissions, use less energy, and are more advanced technologically than the previous tier. CARB's Tier 3 In-Use Off-Road Diesel Engine Standards requires that construction equipment fleets become cleaner and use less energy over time. All construction equipment is subject to the CARB In-Use Off-Road Diesel-Fueled Fleets Regulation, which limits unnecessary idling to 5 minutes, requires all construction fleets to be labeled and reported to CARB, and requires that fleets comply with Best Available Control Technology requirements. Therefore, the project would not result in a wasteful and inefficient use of energy resources during the construction of future development, and impacts would be less than significant.

6.2.2 Long-term Operations

Long-term operational energy use associated with buildout of the project would include fuel consumption of vehicles; electricity and natural gas consumption by residents and commercial operations, and energy consumption related to obtaining water. However, the majority of the future housing units would be multi-family housing, which is a more efficient way to provide housing than lower density single-family development. Although the project would provide capacity for future housing and residential-mixed use development that could increase energy use, associated energy demand would be consistent with energy demand within other cities in the region and would not be associated with inefficient or wasteful energy use. Therefore, operational energy use would not result in wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would be less than significant.

Future development would be subject to compliance with the California Building Code (CBC; Title 24), which seeks to reduce excessive and inefficient energy use. The CBC is regularly updated and includes higher energy-efficiency standards in comparison to other states. Individual development projects in the City would be required to comply with applicable federal, state, and local energy and

building regulations. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant,

6.2.2.1 Transportation

Buildout of the project would consume energy associated transportation uses. Trips by individuals traveling to, from, and within the City would largely rely on passenger vehicles or public transit. Passenger vehicles would be mostly powered by gasoline, with some fueled by diesel or electricity. Public transit would be powered by diesel or natural gas and could potentially be fueled by electricity.

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration is responsible for establishing vehicle standards and for revising existing standards. Compliance with federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. Over time, fuel economy standards have increased and reduced the greenhouse gas emissions footprint of vehicles. Furthermore, the California state law, Advanced Clean Cars II, passed in 2022 requiring all new cars sold in 2035 and beyond be zero-emission vehicles, which includes battery electric vehicles, plug-in hybrid electric vehicles, and fuel cell electric vehicles. Additionally, future development would be required to install electric vehicle charging infrastructure in accordance with 2022 California Green Building Standards Code (CALGreen) mandatory requirements, at a minimum. Therefore, the project would not create a land use pattern that would result in a wasteful, inefficient, or unnecessary use of transportation-related energy, and impacts would be less than significant.

6.2.2.2 Electricity and Natural Gas

Non-transportation energy use would be associated with electricity and natural gas. The Renewables Portfolio Standard (RPS) promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "Initial RPS"), the goal has been accelerated and increased by Executive Orders S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, SB 2 (1X) codified California's 33 percent RPS goal. SB 350 (2015) increased California's renewable energy mix goal to 50 percent by year 2030. SB 100 (2018) further increased the standard set by SB 350 establishing the RPS goal of 44 percent by the end of 2024, 52 percent by the end of 2027, and 60 percent by 2030.

The City is served by Southern California Edison (SCE). Based on the most recent annual report, SCE has already procured 36 percent (California Public Utilities Commission [CPUC] 2023) renewable energy and is on track to procure 60 percent by 2030.

The California Code of Regulations, Title 24, is referred to as the CBC. It consists of a compilation of several distinct standards and codes related to building construction, including plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility, and so on. Of particular relevance to greenhouse gas reductions are the CBC's energy efficiency and green building standards as outlined below.

Title 24, Part 11 of the CBC is CALGreen. Beginning in 2011, CALGreen instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial and low-rise residential buildings, state-owned buildings, schools, and hospitals. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and nonresidential buildings. Local jurisdictions must enforce the minimum mandatory requirements and may adopt CALGreen with amendments for stricter requirements.

Future development would, at a minimum, be required to comply with the mandatory measures included in the current 2022 Energy Code (California Code of Regulations, Title 24, Part 6) and the 2022 CALGreen standards. The 2022 Energy Code increases on-site renewable energy generation from solar, increases electric load flexibility to support grid reliability, reduces emissions from newly constructed buildings, reduces air pollution for improved public health, and encourages adoption of environmentally beneficial efficient electric technologies. The 2022 CALGreen mandatory measures are related to planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. The 2022 CALGreen also includes two tiers of residential and nonresidential voluntary measures that encourage local jurisdictions to raise the following sustainability goals: Tier 1 adds additional requirements beyond the mandatory measures, and Tier 2 further increases the requirements.

New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). The compliance reports must demonstrate a building's energy performance through use of CEC approved energy performance software that shows iterative increases in energy efficiency given the selection of various heating, ventilation, and air conditioning; sealing; glazing; insulation; and other components related to the building envelope.

The project does not involve any unusual characteristics that would result in excessive long-term operational demand for electricity or natural gas. The applicable state plans that address renewable energy and energy efficiency are CALGreen, the California Energy Code, and RPS, and the applicable local plan is the General Plan. All future development projects would be required to meet the mandatory energy requirements of the 2022 CALGreen and the 2022 California Energy Code, at a minimum. The project would not conflict with or obstruct implementation of CALGreen and the California Energy Code, or with SCE's implementation of RPS. Adherence to RPS, 2022 CALGreen, and the 2022 California Energy Code requirements would reduce the City's collective long-term operational energy use. Therefore, the project would not result in a wasteful, inefficient, or unnecessary consumption of electricity and natural gas, nor conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

6.3 Mineral Resources

According to CEQA Guidelines Appendix G, a significant impact on mineral resources would occur if the project would:

1) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or

2) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Mineral resources encompass vital construction materials such as sand, gravel, and crushed rock, integral for the production of construction materials like Portland cement and asphaltic concrete. Additionally, nonfuel mineral resources include metals like gold, silver, iron, copper, as well as industrial metals such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt, and dimension stone.

Classification of the significance of mineral resources in Irvine adheres to the California Surface Mining and Reclamation Act of 1975, empowering the State Mining and Geology Board to designate lands with mineral deposits of regional or statewide importance. Lands are classified according to the following Mineral Resource Zones (MRZ).

Lands classified as MRZ-2 hold the utmost significance to California, indicating areas underlain by proven mineral resources or where data suggests substantial measured or indicated resources exist. MRZ-2 areas are acknowledged as "regionally significant" by the state board, necessitating that land use decisions consider the importance of the mineral resource to the region or state, beyond the lead agency's jurisdiction. Irvine's MRZ classification areas, mainly MRZ-1 and MRZ-3, are depicted in the California Geological Survey mineral resources map of Orange County, known as the "Generalized Mineral Land Classification of Orange County, California: Aggregate Resources Only." No areas in Irvine have been designated MRZ-2 or as regionally significant mineral deposits.

While gas and oil exploration have occurred in Irvine, the City did not yield significant reserves compared to other locales. Irvine currently has no known gas, oil, or geothermal fields. However, the Department of Conservation estimates there are 24 oil and gas wells in Irvine, with all but three existing as capped and abandoned. The remaining wells are currently inactive.

Furthermore, the majority of the City is urbanized and cannot be used for mineral resource extraction. Substantial amounts of the undeveloped land within the City are preserved under the Orange County Natural Community Conservation Plan/Habitat Conservation Plan, which would preclude mineral resource extraction. Undeveloped land that is not preserved is in proximity to existing residential and commercial uses, which also would preclude mineral resource extraction. Therefore, no impacts to mineral resources would occur.

Chapter 7.0
Project Alternatives

The California Environmental Quality Act (CEQA) Guidelines Section 15126.6 requires that an Environmental Impact Report (EIR) compare the effects of a "reasonable range of alternatives" to the project. The State CEQA Guidelines further specify that the alternatives selected should attain most of the basic project objectives and avoid or substantially lessen one or more significant effects of the project. The "range of alternatives" is governed by the "rule of reason," which requires the EIR to set forth only those alternatives necessary to permit an informed and reasoned choice by the lead agency, and to foster meaningful public participation (CEQA Guidelines Section 15126.6[f]). CEQA generally defines "feasible" to mean an alternative that is capable of being accomplished in a successful manner within a reasonable period of time, while also taking into account economic, environmental, social, technological, and legal factors.

7.1 Selection of Alternatives

Chapter 4.0 of this Program EIR (PEIR) provides a detailed analysis of the potential for the project to have a significant effect on the environment.

The project would result in significant unavoidable environmental impacts related to air quality (air quality plan consistency, criteria pollutants, and sensitive receptors), cultural resources (historic resources), geology and soils (paleontological resources), greenhouse gas (GHG) emissions (emissions; policy consistency), noise (ambient noise and vibration), and transportation (vehicle miles traveled [VMT]). All other impacts were determined to be less than significant or would be mitigated to a level less than significant.

In developing the alternatives to be addressed, consideration was given to their ability to meet the basic objectives of the project and eliminate or substantially reduce significant environmental impacts. As identified in Chapter 3.0, project objectives include the following:

1. Implement land use changes necessary to implement the City's 26th Cycle Housing Element Update effective 2021 to 2029 (2021-2029 Housing Element).

2. Identify areas of opportunity and provide options to enhance development in key focus areas of the City while maintaining the City's signature master plan concept.

3. Implement Citywide policy direction to support a high quality-of-life for residents, businesses, and visitors into the future, including a focus on health and wellness.

4. Identify additional sites for residential and/or residential mixed-use development throughout the City using overlay zones to allow greater flexibility for property owners and developers.

5. Implement Phase 2 of the Great Park Framework Plan to serve residents and visitors in the City.

6. Extend Ada roadway between the Irvine Train Station and Marine Way to better support residential uses and improve multi-modal connectivity.

Alternatives selected for consideration include the No Project (Adopted General Plan) Alternative and the Reduced Project Alternative.

As required under Section 15126.6 (e)(2) of the CEQA Guidelines, an EIR must identify the environmentally superior alternative. Pursuant to the CEQA Guidelines, if the No Project Alternative is determined to be the most environmentally superior project, then another alternative among the alternatives evaluated must be identified as the environmentally superior project. Section 7.3 addresses the environmentally superior alternative selected.

The following section provides an analysis of each major issue area included in the impact analysis for the project. Table 7-1 provides a matrix comparison of the significant impacts of the project as compared to each alternative.

Table 7-1
Matrix Comparison of the Project and Alternatives Impacts

Environmental Issue Area	Project	No Project (Adopted Plan) Alternative	Reduced Project Alternative
Aesthetics	LTS	LTS/LESS	LTS/LESS
Agricultural and Forestry Resources	LTS	LTS/LESS	LTS/LESS
Air Quality	SU	SU/GREATER	SU/GREATER
Biological Resources	SM	SM/LESS	SM/LESS
Cultural and Tribal Cultural Resources	SU	SU/LESS	SU/LESS
Energy	LTS	LTS/LESS	LTS/LESS
Geology and Soils	SU	SU/LESS	SU/LESS
Greenhouse Gas Emissions	SU	SU/GREATER	SU/GREATER
Hazards and Hazardous Materials	LTS	LTS/LESS	LTS/LESS
Hydrology and Water Quality	LTS	LTS/LESS	LTS/LESS
Land Use and Planning	LTS	SU/GREATER	SM/LESS
Mineral Resources	NI	NI/SAME	NI/SAME
Noise	SU	SU/LESS	SU/LESS
Population and Housing	LTS	LTS/LESS	LTS/LESS
Public Services and Recreation	LTS	LTS/LESS	LTS/LESS
Transportation	SU	SU/GREATER	SU/GREATER
Utilities and Service System	LTS	LTS/LESS	LTS/LESS
Wildfire	LTS	LTS/LESS	LTS/LESS
NI = no impact; LTS = less than significant; SM = significant and mitigated; SU = significant and unavoidable			

7.2 Project Alternatives

Consistent with CEQA Guidelines Section 15126(d), the alternatives described below are analyzed to include sufficient information to allow a meaningful analysis and comparison with the project. For purposes of this analysis, those subject areas included in Chapter 4.0 are also included in the analysis of the alternatives. The following sections include a discussion of the impacts of the alternatives

compared to the project. The conclusion for each alternative also provides an overview of how the alternative meets, partially meets, or fails to meet the project objectives.

7.2.1 No Project Alternative

The following discussion of the No Project Alternative is based on the CEQA Guidelines Section 15126.6(e)(3)(A) which states:

> When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation, an alternative will be the continuation of the existing plan, policy or operation into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan.

Consistent with CEQA Guidelines Section 15126.6(e)(3)(A), the No Project Alternative represents the continued implementation of the adopted General Plan land use and zoning for the project areas.

7.2.1.1 Description of the No Project Alternative

The No Project Alternative involves the continuation of existing land uses permitted under the City's current General. The No Project Alternative would not identify additional residential sites necessary to meet the City's RHNA allocation, and thereby result in less intensive development within the City. The No Project Alternative would also not include improvements to the Great Park or the proposed Ada roadway extension. Nonetheless, future development under the No Project Alternative would occur consistent with the City's adopted General Plan land use plan and would be subject to implementation of the City's General Plan Mitigation Monitoring Requirements. The No Project Alternative would not implement the overlay zones proposed under the project, and therefore would not provide the densities needed to accommodate the region's housing needs or the required levels of affordability.

Under the No Project Alternative, State Housing Law and legislative requirements for implementation of the project's planned goals, objectives, policies and actions aimed at increasing housing (in particular affordable housing) in the City would not occur. This alternative would not satisfy the project objectives because implementation of the No Project Alternative would not facilitate the future development of sufficient residential units needed to the meet the City's RHNA allocation and would not satisfy applicable legislative mandates associated with the City's adopted Housing Element.

7.2.1.2 Environmental Analysis of the No Project Alternative

a. Aesthetics

Future development under the No Project Alternative would be subject to relevant portions of the California Building Code, the City's Municipal Code, Zoning Ordinance, Standard Conditions, and relevant General Plan policies that serve to protect visual resources. Future development under this

alternative would also be required to comply with Municipal Code standards related to light and glare, which requires that outdoor lighting be directed downward and away from adjoining properties and public rights-of-way. Therefore, impacts related to aesthetics under the No Project Alternative would be less than significant and would be less than the project.

b. Agricultural and Forestry Resources

Small amounts of land are classified as Prime Farmland, Unique Farmland, and Farmland of Statewide of Importance (generally located in the northern portion of City and in areas near the Great Park-Planning Area 51), some of which are in active agricultural cultivation. Most of these areas are surrounded by undeveloped land and are not contemplated for development under the adopted General Plan. Furthermore, agricultural uses near the Great Park exist as interim uses due to their adjacency to the former Marine Corps Air Station (MCAS) El Toro air base, which historically limited development on these properties due to potential conflicts with flight paths and air space in these areas. There is no forest land within the City, and the City does not possess any zoning classifications for forestland, timberland, or timberland production zones. Similarly, there are no lands protected by a Williamson Act Contract within the City. Therefore, impacts related to agricultural and forestry resources under the No Project Alternative would be less than significant and would be less than the project.

c. Air Quality

Development would continue under the No Project Alternative consistent with the City's adopted General Plan land use plan, and without guidance provided by the Environmental Protection and Climate Action (EPCA) Element. Therefore, impacts related to air quality would remain significant and unavoidable at this program level of review, greater than the project.

d. Biological Resources

Future development under the No Project Alternative would occur consistent with the City's adopted General Plan land use plan and would be subject to implementation of the City's existing General Plan Mitigation Monitoring Requirements for biological resources, which would reduce impacts related to sensitive species, riparian habitats, wetlands, and wildlife corridors to a level less than significant. Future development under the No Project Alternative would be required to demonstrate compliance with Section 404 of the Clean Water Act (CWA) (PPP BIO-1), Section 401 of the CWA (PPP BIO-2), Section 1600 of the California Fish and Game Code (PPP BIO-3), and the Orange County Central and Coastal Central and Coastal Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) (PPP BIO-5) and California Endangered Species Act (CESA) (PPP BIO-6. Furthermore, overall habitat impacts would be slightly reduced because the No Project Alternative would not allow for as much development compared to the project. Therefore, impacts related to biological resources under the No Project Alternative would be less than significant, and slightly reduced compared to the project.

e. Cultural and Tribal Cultural Resources

Future development under the No Project Alternative would occur consistent with the City's adopted General Plan land use plan and would be subject to Municipal Code Sections 3-4-132 (Protection of Natural, Cultural, Structural and Archaeological Resources) and 9-10-7 (special development standards) (PPP CUL-4) and City Standard Condition 2.5 (construction monitoring) (PPP CUL-5), which would reduce impacts related to a level less than significant. Future development under the No Project Alternative would likely also be subject to the requirements of AB 52 consultation when applicable and necessary. Overall impacts would be slightly reduced when compared to the project because the No Project Alternative would not allow for as much development. Therefore, impacts related to cultural and tribal cultural resources under the No Project Alternative would remain significant and unavoidable at this program level of review, and slightly reduced compared to the project.

f. Energy

Development would continue under the No Project Alternative consistent with the City's adopted General Plan land use plan. The No Project Alternative would develop fewer residential uses, and thereby consume less energy. Therefore, impacts related to energy would be less than significant, and would be less than the project.

g. Geology and Soils

Future site-specific development under the No Project Alternative would be subject to the requirements related to the City's Building Code (PPP GEO-4), Grading Code (PPP GEO-5), Grading Manual (PPP GEO-6), and Standard Condition 2.6 Site Specific Geotechnical Study (PPP GEO-8), which would ensure that structures would be designed with the geologic hazards in mind to reduce risks associated with strong seismic ground shaking, seismic-related ground failure, and other geologic hazards such as liquefaction, landslide lateral spreading, subsidence, and expansive soils to a level less than significant. Post-construction erosion resulting from increased runoff would also generally be avoided or reduced through site design and hydromodification control BMPs as required per PPP-HYD-3, PPP-HYD-5, PPP-HYD-10, PPP-HYD-12, and PPP-HYD-16. Projects would also be required to adhere to the City's Municipal Code (PPP-HYD-10, PPP-HYD-11), Standard Conditions (PPP-HYD-14, PPP-HYD-15), Grading Manual (PPP-HYD-12), to reduce operational impacts associated with erosion. However, site-specific development under the No Project Alternative would have the potential to impact paleontological resources, which would be considered significant and unavoidable, and less than the project.

h. Greenhouse Gas Emissions

The No Project Alternative would not include the new objectives and policies associated with the EPCA Element described above would not be certified. Development would continue under the No Project Alternative consistent with the City's adopted General Plan land use plan, and without guidance provided by the EPCA Element. Therefore, impacts related to GHG would remain significant and unavoidable, and would be greater than the project.

i. Hazards and Hazardous Materials

Future development under the No Project Alternative would not require use of materials that are acutely hazardous, and use of common hazardous materials in small quantities would not represent a significant hazard to the public or environment. Project construction would adhere to typical Best Management Practices regarding the use of hazardous materials, such as proper labeling and storage, removal of materials once completed, and offsite vehicle maintenance. Compliance with the Certified Union Program Agency for Orange County (PPP HAZ-1) would ensure that projects would identify and remediate any known hazardous materials sites. Future residential development within the John Wayne Airport safety zones, as well as the 70 CNEL, 65 CNEL, and 60 CNEL John Wayne Airport noise contours would be subject to the land use restrictions for each of the compatibility zones, which provide development limitations to minimize potential incidents of off-airport accidents to persons and property on the ground. Future development would be located within existing developed areas and along major transportation corridors in the City that would allow for evacuation and response. Future development would also be designed consistent with all applicable safety requirements and would not physically interfere with any emergency response or evacuation plans, including the LHMP. Future development would also implement an Emergency Access Plan that would maintain emergency access to all properties within the project limits and the surrounding vicinity. All new development and redevelopment adjacent to a CAL FIRE designated fire hazard severity zone would be required to prepare a fuel modification plan and adhere to other fire protection requirements before approval of tentative maps and grading permits, per City Standard Condition 2.19 Open Space Fuel Modification (PPP HAZ-7) and Standard Condition 3.14 HOA/Fuel Modification (PPP HAZ-8). Therefore, impacts associated with hazards would be less than significant, and less than the project.

j. Hydrology and Water Quality

The No Project Alternative would not include relevant new General Plan policies that would further reduce impacts related to hydrology and water quality. To minimize potential water quality impacts during construction, future development under the No Project Alternative would be required to comply with the statewide Construction General Permit (PPP HYD-1). Future projects would also be required to comply with the City Grading Code (PPP HYD-10), and the City Grading Manual (PPP HYD-HYD-12). Adherence to the following PPPs would require implementation and compliance with existing water quality control plans and sustainable groundwater management plans as conditions of approval for future development associated with the project: PPP-HYD-1, PPP-HYD-2, PPP-HYD-3, PPP-HYD-4, PPP-HYD-5, PPP-HYD-7, PPP-HYD-8, PPP-HYD-9, PPP-HYD-11, PPP-HYD-12, PPP-HYD-13, PPP-HYD-15, PPP-HYD-16, PPP-HYD-17, and PPP-HYD-20. Future development under the No Project Alternative would be subject to the regulatory requirements described above for the project, including the City's National Pollutant Discharge Elimination System (NPDES) Permit, Municipal Code, Standard Conditions and Grading Manual, and would be required to prepare WQMPs per PPP-HYD-16, described in further detail in Section 4.8.6.1 above, to identify Best Management Practices (BMPs) directed at pollution reduction and the maintenance of on-site drainage patterns. Additionally, future development under the No Project Alternative would also adhere to the joint NPDES permit from the Santa Ana RWQCB. Therefore, impacts associated with hydrology and water quality would be less than significant, less than the project.

k. Mineral Resources

Irvine currently has no known gas, oil, or geothermal fields. However, the Department of Conservation estimates there are 24 oil and gas wells in Irvine, with all but three existing as capped and abandoned. The remaining wells are currently inactive. Furthermore, the majority of the City is urbanized and cannot be used for mineral resource extraction. Substantial amounts of the undeveloped land within the City are preserved under the Orange County Natural Community Conservation Plan/Habitat Conservation Plan, which would preclude mineral resource extraction. Undeveloped land that is not preserved is in proximity to existing residential and commercial uses, which also would preclude mineral resource extraction. Therefore, no impacts to mineral resources would occur. Therefore, no impacts related to mineral resources would occur, the same as the project.

l. Land Use and Planning

Development would continue under the No Project Alternative consistent with the City's adopted General Plan. However, the new objectives and policies associated with the General Plan Update described above would not be certified. As such, the No Project Alternative would result in a land use inconsistency between the City's adopted Housing Element and the existing General Plan, Zoning Ordinance, and Zoning Map. This inconsistency would also result in inconsistencies with state housing laws requiring local agencies to implement the necessary land use tools to accommodate their fair-share RHNA requirements. Furthermore, future development under the project would not benefit from the policies and land use planning direction that would increase connectivity and utilize proximity-based planning that would foster social interactions and community engagement. Therefore, impacts related to land use would be significant and unavoidable and would be greater than the project.

m. Noise

The No Project Alternative would not include goals and policies associated with the Noise Element Update and would not be certified. Development would continue under the No Project Alternative consistent with the City's adopted General Plan land use plan and would result in increases in ambient noise and vibration levels that exceed applicable standards. Therefore, impacts related to noise and vibration would remain significant and unavoidable at this program level of review, less than the project.

n. Population and Housing

Residential development would continue under the No Project Alternative, consistent with the City's adopted General Plan land use plan. Future development under the No Project Alternative would be in areas that are already served by infrastructure, and therefore would not induce population growth. The No Project Alternative would not displace substantial number of people or housing. Therefore, impacts associated with inducing unplanned population and housing growth and displacement of people and housing would be less than significant, less than the project.

o. Public Services and Recreation

Future site-specific development under the No Project Alternative would not directly result in sufficient demand to require construction of new fire protection, police protection, school, library, or park and recreation facilities, since each incremental housing development would pay its fair share toward anticipated facility needs. Pursuant to California Government Code Section 65995, applicants for future projects under the No Project Alternative would be continue to be required to pay developer fees to the appropriate school districts at the time building permits are issued; payment of the adopted fees would provide full and complete mitigation of school impacts. Per AB 2626 and SB 50, school districts may impose a fee in conjunction with the construction of new commercial or residential buildings and for those projects that are adding square footage to an existing commercial or residential building. Future development under the No Project Alternative would also be subject to the requirements of the Quimby Act and the fee schedule established by the City for the payment of development impact fees to support the provision of new recreational facilities and the rehabilitation of existing neighborhood parks or recreational facilities. Therefore, impacts associated with public services and recreation would be less than significant, less than the project.

p. Transportation

The No Project Alternative would not include the new objectives and policies associated with the Circulation Element Update and would not be certified. Although the Circulation Element Update would not be certified, future development under the No Project Alternative would be subject to the City's existing regulatory requirements.

Buildout of the City's Existing General Plan would require a 17.0 percent reduction in VMT to meet the significance threshold, while the project requires a 3.5 percent reduction in VMT needed to meet the significance threshold under the project. This is because the No Project Alternative would not introduce the housing overlays that would allow for increased residential development necessary to meet the City's RHNA allocation, and therefore would not reduce the jobs/housing imbalance that exists in the City.

The No Project Alternative could meet the VMT threshold with the implementation of a combination of on-site infrastructure improvements (2.5 percent) and on-site TDM programs (5 percent), which could provide an overall 7.5 percent reduction in VMT in certain areas of the City where a TDM program exists or could be introduced as part of a development agreement. However, no specific projects have been identified at this time, and it is not possible to ensure that every future project could fully mitigate potentially significant impacts. Future development under the No Project Alternative would be subject to existing City mitigation measures to incorporate on-site connectivity into site design to achieve a reduction of 2.5 percent VMT rate and incorporate a TDM program to achieve a reduction of up to 5 percent VMT rate if applicable. However, as no specific projects have been identified at this time, it is not possible to ensure that every future project could fully mitigate potentially significant impacts. Therefore, impacts related to VMT would remain significant and unavoidable under the No Project Alternative and would be greater than the project.

q. Utilities and Service System

Adequate water, wastewater, and solid waste capacity exists to accommodate future growth within the City. Since the No Project Alternative would generate less development than the project, water, wastewater, and solid waste capacity would exist to serve this alternative. The No Project Alternative would also consume less electrical power, natural gas, and telecommunications services that the project. Future development under the No Project Alternative would be subject to existing City requirements to comply with the Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential) (PPP 14-2) and the Irvine Sustainability Community Initiative (PPP 14-3) to reduce energy consumption. Therefore, impacts associated with utilities and services would be less than significant, less than the project.

r. Wildfire

Future development under the No Project Alternative would be designed, constructed, and maintained in accordance with applicable standards associated with the LHMP, EOP, and Emergency Access Plan. New development and redevelopment under the No Project Alternative would also need to consider water supply, access, building ignition and fire resistance, fire protection systems and equipment, defensible space, and vegetation management, and demonstrate consistency with the requirements of California Building Code Chapter 7A, the International Wildland-Urban Interface Code, and the City Municipal Code. Therefore, impacts associated with wildfire would be less than significant, and less than the project.

7.2.1.3 Conclusion Regarding the No Project Alternative

As described in Section 7.2.1.2 above, the No Project Alternative would not identify additional residential sites necessary to meet the City's RHNA allocation, and thereby would result in development of fewer residential units. The No Project Alternative would not include necessary improvements within the Great Park or the extension of Ada roadway. Development would continue under the No Project Alternative consistent with the City's adopted General Plan land use plan. Therefore, impacts associated with aesthetics, agricultural and forestry resources, biological resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, population and housing, public services and recreation, utilities and services, and wildfire would be less than significant, the same as the project, but the intensity of those impacts would be less than the project due to development of fewer residential units. Impacts associated with historic resources, paleontological resources, and noise would remain significant and unavoidable, the same as the project, but the intensity of those impacts would be less than the project due to development of fewer residential units. Impacts associated with air quality, GHG, and transportation would be significant and unavoidable, the same as the project, but the intensity of those impacts would be greater than the project. This is because the No Project Alternative would not introduce the housing overlays that would allow for increased residential development necessary to meet the City's RHNA allocation, and therefore would not reduce the jobs/housing imbalance that exists in the City resulting in greater vehicle miles traveled and associated air quality and GHG emissions. In the absence of adopting the General Plan Update prepared under the project, this alternative would not implement State Housing Law requirements and would not implement the updates of the general plan elements. Therefore, impacts associated with land use would be significant and unavoidable,

greater than the project. This alternative would not satisfy the project objectives stated in Chapter 3.0, Project Description, because buildout of the No Project Alternative would not provide enough residential units to meet the City's RHNA allocation, would not satisfy legislative mandates to implement State Housing Law requirements, would not enhance development or provide development opportunities within the three focus areas, would not include improvements to the Great Park, and would not extend the Ada roadway.

7.2.2 Reduced Project Alternative

7.2.2.1 Description of the Reduced Project Alternative

The City has developed a Reduced Project Alternative that would accommodate the City's RHNA requirement and implement the 2021-2029 Housing Element utilizing a smaller number of residential sites. Compared to the 57,656 units proposed under the project, the Reduced Project Alternative would only propose 42,637 residential units, a difference of 15,019 units. Similar to the project, the Reduced Project Alternative would also include the 2,261 unbuilt units already in the General Plan. While the number of residential units proposed under the Reduced Project Alternative would be less than the project, this alternative would still exceed the City's RHNA allocation of 23,610 units, and therefore would be consistent with applicable housing statute, including no-net loss and affirmatively furthering fair housing requirements. The proposed number of residential units within Focus Area 3 would remain unchanged under the Reduced Project Alternative. However, the Reduced Project Alternative would decrease the number of proposed residential units within Focus Area 1 from 15,000 units to 11,242 units and in Focus Area 2 from 26,607 units to 19,811 units. Table 3-2 in Chapter 3.0 presents the distribution of proposed residential units within various PAs throughout the City under the Reduced Project Alternative.

In addition to the RHNA residential component, the Reduced Project Alternative includes additional non-residential land uses in the Irvine Great Park (Great Park). Phase 1 of the Great Park Framework Plan is in the baseline (no build condition) and the remaining land uses supporting the buildout of the Great Park Framework are included as part of the Reduced Project Alternative. Phase 2 (or the remaining buildout of the Great Park) includes the following: a botanical garden, a veteran's memorial garden, a library, a discovery center, two museums, a 65-acre central park area, an accessory restaurant use, three aquatic center pools, an aquatic stadium, an all-wheel park, and pickleball courts.

The Reduced Project Alternative would also include the extension of the Ada roadway from its current terminus in the parking lot of the Irvine train station south of the SCRRA railroad tracks to extend north under the railroad tracks to meet the future Marine Way extension north of the railroad tracks. The Ada roadway extension between the Irvine train station and Marine Way provides multi-modal connectivity to support the residential uses.

7.2.2.2 Environmental Analysis of the Reduced Project Alternative

a. Aesthetics

Like the project, development under this alternative would be subject to relevant portions of the California Building Code, the City's Municipal Code, Zoning Ordinance, Standard Conditions, and relevant General Plan policies that serve to protect visual resources (PPPs AES-1 through AES-8), including those related to (but not limited to) building height limitations under Federal Aviation Administration (FAA) regulations, landscaping, and design standards. Future development under this alternative would also be required to comply with Municipal Code standards related to light and glare, which requires that outdoor lighting be directed downward and away from adjoining properties and public rights-of-way. Therefore, impacts related to aesthetics under the Reduced Project Alternative would be less than significant and would be less than the project.

b. Agricultural and Forestry Resources

Small amounts of land are classified as Prime Farmland, Unique Farmland, and Farmland of Statewide of Importance (generally located in the northern portion of City and in areas near the Great Park-Planning Area 51), some of which are in active agricultural cultivation. Most of these areas are surrounded by undeveloped land and are not contemplated for development under the Reduced Project Alternative. Furthermore, agricultural uses near the Great Park exist as interim uses due to their adjacency to the former MCAS El Toro air base, which historically limited development on these properties due to potential conflicts with flight paths and air space in these areas. Since the closure of MCAS El Toro, the adopted Housing Element (which would be implemented by the Reduced Project Alternative) identified a potential housing site on a parcel within the Great Park area that is currently occupied by agricultural uses.

It is important to note that the Reduced Project Alternative itself would not contemplate any confirmed development projects on agricultural sites, including those identified in the adopted Housing Element, but rather would allow for residential uses on nonresidential sites through a new Residential and Residential Mixed-Use Overlay. The overlay would retain all existing land use and zoning designations/classifications on properties throughout the City (refer to Chapter 3.0, Project Description, for more details). Should future projects facilitated by approval of the Reduced Project Alternative occur on existing agricultural sites, site-specific evaluations would be required in compliance with the CEQA to determine project-specific impacts to agricultural lands.

There is no forest land within the City, and the City does not possess any zoning classifications for forestland, timberland, or timberland production zones. Similarly, there are no lands protected by a Williamson Act Contract within the City. Therefore, impacts related to agricultural and forestry resources under the Reduced Project Alternative would be less than significant and would be less than the project.

c. Air Quality

The reduced amount of development under this alternative would be subject to the objectives and policies associated with the EPCA Element aimed at improving air quality. Although mitigation would

be required to reduce construction emissions (AQ-1), operational emissions (AQ-2), and reduce exposure of sensitive receptors to TACs (AQ-3), no specific projects have been identified at this time, and it is not possible to ensure that every future project could fully mitigate potentially significant impacts. Furthermore, the Reduced Project Alternative would develop less housing in the City, and therefore would not reduce the jobs/housing imbalance that exists in the City to the same degree as the project, and therefore would generate greater vehicle emissions than the project. Therefore, impacts related to air quality would remain significant and unavoidable at this program level of review and would be greater than the project.

d. Biological Resources

Future development under the Reduced Project Alternative would be required to demonstrate compliance with Section 404 of the CWA (PPP BIO-1), Section 401 of the CWA (PPP BIO-2), Section 1600 of the California Fish and Game Code (PPP BIO-3), and the Orange County NCCP/HCP (PPP BIO-5) and California Endangered Species Act (CESA) (PPP BIO-6). Future site-specific development under the Reduced Project Alternative would be required to implement mitigation measures BIO-1 through BIO-10, which would require project-specific biological assessments and jurisdictional delineations for projects meeting specific requirements and would require future projects affecting such resources to obtain all necessary authorizations from respective resource agencies. Furthermore, overall habitat impacts would be slightly reduced because the Reduced Project Alternative would not allow for as much development compared to the project. Compliance with goals, objectives, and policies in the updated Conservation and Open Space Element would further the City's goals of reducing impacts to biological resources. Therefore, impacts related to biological resources under the Reduced Project Alternative would be mitigated to a less than significant level and would be slightly reduced compared to the project.

e. Cultural and Tribal Cultural Resources

Overall impacts would be slightly reduced because the Reduced Project Alternative would not allow for as much development compared to the project. Future development under the Reduced Project Alternative, where required, would conduct tribal consultation under Assembly Bill 52 to avoid impacts to tribal cultural resources. Future projects would also continue to be required to comply with City regulations (including Standard Conditions) aimed at reducing impacts to cultural and tribal cultural resources and would also be required to implement mitigation measure CUL-2 to reduce potentially significant impacts to cultural and tribal and cultural resources, similar to the project. Mitigation measure CUL-2 would require that, at the discretion of the City of Irvine Director of Community Development, or designee, acting in a similar capacity, applicants for future proposed ground disturbing projects to either (1) provide a technical cultural resources assessment consisting of a record search, survey, background context and project specific recommendations performed by a qualified archaeologist meeting Secretary of the Interior Standards and certified by the County of Orange or (2) agree to full-time monitoring by an archaeologist and a designated representative from the tribe/ group(s) who is culturally linked to the site. Additionally, the City's updated Conservation and Open Space Element includes Goal 4, which aims to maintain historical resources as part of the City's land use pattern. Compliance with this goal would further support the City's goal of considering and preserving historic, archaeological, cultural, and tribal cultural resources. The Reduced Project Alternative would implement mitigation measure CUL-1, which would reduce

impacts on historic resources. However, as no specific development projects have been identified at this time, it is not possible to ensure that every future project could fully mitigate potentially significant impacts on historic resources. Therefore, impacts to historic resources would remain significant and unavoidable at this program level of review, and would be slightly reduced compared to the project.

f. Energy

Overall, the No Reduced Alternative would develop fewer residential uses, and thereby consume less energy. Construction under the Reduced Project Alternative would be required to meet would meet California Air Resources Board (CARB) Tier 3 In-Use Off-Road Diesel Engine Standards Future development would be subject to compliance with the California Building Code (CBC; Title 24), which seeks to reduce excessive and inefficient energy use. The CBC is regularly updated and includes higher energy-efficiency standards in comparison to other states. Individual development projects in the City would be required to comply with applicable federal, state, and local energy and building regulations. Future development would also be required to install electric vehicle charging infrastructure in accordance with 2022 California Green Building Standards Code (CALGreen) mandatory requirements, at a minimum. Therefore, impacts related to energy would be less than significant, and would be less than the project.

g. Geology and Soils

F Future site-specific development under the Reduced Project Alternative would be subject to the requirements related to the City's Building Code (PPP GEO-4), Grading Code (PPP GEO-5), Grading Manual (PPP GEO-6), and Standard Condition 2.6 Site Specific Geotechnical Study (PPP GEO-8), which would ensure that structures would be designed with the geologic hazards in mind to reduce risks associated with strong seismic ground shaking, seismic-related ground failure, and other geologic hazards such as liquefaction, landslide lateral spreading, subsidence, and expansive soils to a level less than significant. Post-construction erosion resulting from increased runoff would also generally be avoided or reduced through site design and hydromodification control BMPs as required per PPP-HYD-3, PPP-HYD-5, PPP-HYD-10, PPP-HYD-12, and PPP-HYD-16. Projects would also be required to adhere to the City's Municipal Code (PPP-HYD-10, PPP-HYD-11), Standard Conditions (PPP-HYD-14, PPP-HYD-15), Grading Manual (PPP-HYD-12), to reduce operational impacts associated with erosion. Implementation of the mitigation measure GEO-1 would potentially reduce impacts on paleontological resources. However, as no specific development projects have been identified at this time, it is not possible to ensure that every future project could fully mitigate potentially significant impacts. Therefore, impacts to paleontological resources would remain significant and unavoidable, and would be less than the project.

h. Greenhouse Gas Emissions

The reduced amount of development under this alternative would be subject to the objectives and policies associated with the Land Use and EPCA Elements. Although mitigation requiring identification of potential measures that would reduce GHG emissions below the applicable South Coast Air Quality Management District (SCAQMD) thresholds (mitigation measure GHG-1) would be feasible under the Reduced Project Alternative, no specific projects have been identified at this time,

and it is not possible to ensure that every future project could fully mitigate potentially significant impacts. Furthermore, the Reduced Project Alternative would develop less housing in the City, and therefore would not reduce the jobs/housing imbalance that exists in the City to the same degree as the project, and therefore would generate greater vehicle emissions than the project. Therefore, impacts related to GHG would remain significant and unavoidable at this program level of review and would be greater than the project.

i. Hazards and Hazardous Materials

Future site-specific development under the Reduced Project Alternative would be subject to the regulatory requirements described above for the project, which would ensure projects would remediate existing hazardous contamination before construction can commence. Compliance with the Certified Union Program Agency for Orange County (PPP HAZ-1) would ensure that projects would identify and remediate any known hazardous materials sites. Future development under the Reduced Project Alternative would be located within existing developed areas and along major transportation corridors in the City that would allow for evacuation and response. Future development under the Reduced Project Alternative would also be designed consistent with all applicable safety requirements, would implement an Emergency Access Plan, and would not physically interfere with any emergency response or evacuation plans. Future development under the Reduced Project Alternative would not be located within the segment of Focus Area 3 designated as a Very High fire severity zone, and any development near this area would be required to prepare a fuel modification plan and adhere to other fire protection requirements before approval of tentative maps and grading permits, per City Standard Condition 2.19 Open Space Fuel Modification (PPP HAZ-7) and Standard Condition 3.14 HOA/Fuel Modification (PPP HAZ-8). Furthermore, compliance with the updated Safety Element would further support the City's goal of minimizing land use conflicts and hazards associated with hazardous materials, emergencies, and hazardous sites. Therefore, impacts associated with hazards would be less than significant, less than the project.

j. Hydrology and Water Quality

To minimize potential water quality impacts during construction, future development would be required to comply with the statewide Construction General Permit (PPP HYD-1). Future projects would also be required to comply with the City Grading Code (PPP HYD-10), and the City Grading Manual (PPP HYD-HYD-12). Adherence to the following PPPs would require implementation and compliance with existing water quality control plans and sustainable groundwater management plans as conditions of approval for future development associated with the project: PPP-HYD-1, PPP-HYD-2, PPP-HYD-3, PPP-HYD-4, PPP-HYD-5, PPP-HYD-7, PPP-HYD-8, PPP-HYD-9, PPP-HYD-11, PPP-HYD-12, PPP-HYD-13, PPP-HYD-15, PPP-HYD-16, PPP-HYD-17, and PPP-HYD-20. Future site-specific development under the Reduced Project Alternative would be subject to the regulatory requirements described above for the project, including the City's Municipal Permit, Municipal Code, Standard Conditions and Grading Manual, and would be required to prepare Water Quality Management Plans (WQMPs) per PPP-HYD-16 to identify Best Management Practices (BMPs) directed at pollution reduction and the maintenance of on-site drainage patterns. Additionally, future development under the Reduced Project Alternative would also adhere to the joint NPDES permit from the Santa Ana Regional Water Quality Control Board (RWQCB). Therefore, impacts associated with hydrology and water quality would be less than significant, less than the project.

k. Land Use and Planning

The reduced amount of development under this alternative would occur within infill sites (primarily in the three focus areas) and would be subject to the objectives and policies associated with the Land Use Element Update and the City regulatory requirements pertaining to land use. Development would simply occur at less densities. As such, the reduced Project Alternative would also not result in the physical division of established communities. Approval of the Reduce Project Alternative would include the same land use plan amendments to the City's General Plan, Zoning Ordinance, Zoning Map, and Local Coastal Program that are also required for the project. Furthermore, all future development resulting from implementation of the project would be required to comply with all existing land use plans and policies. Additionally, future projects would be required to comply with mitigation measures BIO-1 through BIO-10 to reduce potential conflicts with the NCCP/HCP. As such, the Reduced Project Alternative would also not result in inconsistencies with adopted plans regulating land use in the City. Therefore, impacts related to land use would be mitigated to a level less than significant, less than the project.

l. Mineral Resources

Irvine currently has no known gas, oil, or geothermal fields. However, the Department of Conservation estimates there are 24 oil and gas wells in Irvine, with all but three existing as capped and abandoned. The remaining wells are currently inactive. Furthermore, the majority of the City is urbanized and cannot be used for mineral resource extraction. Substantial amounts of the undeveloped land within the City are preserved under the Orange County Natural Community Conservation Plan/Habitat Conservation Plan, which would preclude mineral resource extraction. Undeveloped land that is not preserved is in proximity to existing residential and commercial uses, which also would preclude mineral resource extraction. Therefore, no impacts to mineral resources would occur. Therefore, no impacts related to mineral resources would occur, the same as the project.

m. Noise

The reduced amount of development under this alternative would be subject to the goals and policies associated with the Noise Element Update described above. Under the Reduced Project Alternative, off-site traffic noise level impacts will exceed noise level increase thresholds along 129 segments which is less than the 147 impacted segments under the project. Construction related noise impacts under the Reduced Project Alternative would be similar compared to the project. Similarly, the Reduced Project Alternative would not develop any vibration generating uses, and future development near John Wayne Airport would be subject to the noise requirements of the Airport Land Use Plan, Noise Element Update policies, and associated FAA requirements. Future development under the Reduced Project Alternative would be subject to mitigation measures NOI-1 through NOI-4 related to ambient noise and mitigation measures NOI-5 and NOI-6 related to vibration developed for the project. Impacts related to ambient noise increases associated with railroads, stationary sources, and construction would be mitigated to a level less than significant. Although the Reduced Project Alternative would develop fewer residential units and generate less vehicle traffic, impacts related to increases in ambient traffic noise would remain significant and unavoidable. Similarly, impacts associated with railroad vibration would be mitigated to a level less

than significant, but impacts associated with construction vibration would remain significant and unavoidable. Therefore, impacts associated with noise and vibration would remain significant and unavoidable at this program level of review and would be less than the project.

n. Population and Housing

Because the housing assessment in the RHNA is determined by the Southern California Association of Governments (SCAG), future development under the Reduced Project Alternative would accommodate increases in population based on SCAG's demographic projections. Therefore, future housing developed under the Reduced Project Alternative would provide housing necessary to meet the City's RHNA allocation of 23,610 units, as well as accommodate future population growth and housing needs projected in SCAG's growth projections. Additionally, the Reduced Project Alternative would reduce the City's existing jobs/housing imbalance. Future development under the Reduced Project Alternative would primarily be in developed areas that are already served by infrastructure. Given these conditions and the City's existing development and housing occupancy patterns, it is not anticipated that future housing development facilitated by the Reduced Project Alternative would induce unplanned population growth directly or indirectly through extension of roads or other infrastructure or otherwise.

Although some people may be displaced by a future site-specific redevelopment project, buildout of the Reduced Project Alternative would provide an overall expansion of housing opportunities and would be required to comply with all laws and regulations related to the displacement of tenants including Government Code §§ 66300 et seq. Furthermore, the Reduced Project Alternative would exceed the state RHNA allocations assigned to the City, providing a buffer in all income categories. This exceedance of the City's RHNA allocation would provide additional housing that would accommodate residents displaced by future redevelopment projects, ensuring no net loss of housing, and that displaced residents would be able to find replacement housing. Therefore, displacement of people associated with implementation of the Reduced Project Alternative would be temporary. Additionally, the City's Inclusionary Housing Ordinance, as contained in Chapter 2-3 of the Zoning Ordinance, would be considered in the analysis of a future site-specific development that consists of 50 residential units or more to ensure adequate and accessible affordable housing. The Inclusionary Housing Ordinance requires a minimum of 15 percent of the total units that are constructed to be affordable units, providing an expansion of housing opportunities. Therefore, impacts associated with population and housing would be less than significant and would be less than the project.

o. Public Services and Recreation

Future site-specific development under the Reduced Project Alternative would not directly result in sufficient demand to require construction of new fire protection, police protection, school, library, or park and recreation facilities, since each incremental housing development would pay its fair share toward anticipated facility needs. Although this alternative would reduce the potential for development of approximately 15,019 residential units, the Reduced Project Alternative would still potentially meet the City's RHNA allocation. Similar to the project, under the Reduced Project Alternative, the existing and projected deficit in population-based parks and recreation facilities would remain upon implementation of the project. However, future development would occur

incrementally through 2045, based on market conditions and other factors, such that parks are not overburdened at any given time. As such, there would not be a sudden increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Pursuant to California Government Code Section 65995, applicants shall pay developer fees to the appropriate school districts at the time building permits are issued; payment of the adopted fees would provide full and complete mitigation of school impacts. Per AB 2626 and SB 50, school districts may impose a fee in conjunction with the construction of new commercial or residential buildings and for those projects that are adding square footage to an existing commercial or residential building. Future development under the project would also be subject to the requirements of the Quimby Act and the fee schedule established by the City for the payment of development impact fees to support the provision of new recreational facilities and the rehabilitation of existing neighborhood parks or recreational facilities. Therefore, impacts associated with public services and recreation would be less than significant, and less than the project.

p. Transportation

The City has also developed a Reduced Project Alternative that would accommodate the City's RHNA requirement and implement the 2021-2029 Housing Element utilizing a smaller number of residential sites but would include the same amount of nonresidential development within the Great Park and the extension of Ada roadway. However, compared to the 57,656 units proposed under the project, the Reduced Project Alternative would only propose 42,639 residential units, a difference of 15,017 units. However, the 42,639 residential units proposed under the Reduced Project Alternative would exceed the City's RHNA allocation of 23,610 units, and therefore would be consistent with applicable housing statute, including no-net loss and affirmatively furthering fair housing requirements. The proposed number of residential units within Focus Area 3 would remain unchanged under the Reduced Project Alternative. However, the Reduced Project Alternative would decrease the number of proposed residential units within Focus Area 1 from 15,000 units to 11,242 units and in Focus Area 2 from 26,607 to 19,811.

Development under this alternative would be subject to the objectives and policies associated with the updated Circulation Element and the City regulatory requirements described above. The Vehicle Miles Travelled (VMT) Traffic Study prepared for the project included an evaluation of the Reduced Project Alternative compared to the project. Table 7-2 presents a comparison of VMT generated under the Reduced Project Alternative to the project. As shown in Table 7-2, the Reduced Project Alternative would require a 6.7 percent reduction in VMT to meet the significance threshold, which is greater than the 3.5 percent reduction in VMT needed to meet the significance threshold under the project. This is because the Reduced Project Alternative would develop less housing in the City, and therefore would not reduce the jobs/housing imbalance that exists in the City to the same degree as the project. Future development under the Reduced Project Alternative would be subject to mitigation measures to incorporate on-site connectivity into site design to achieve a reduction of 2.5 percent VMT rate (TRA-1) and incorporate a TDM program to achieve a reduction of up to 5 percent VMT rate (TRA-2). However, as no specific projects have been identified at this time, it is not possible to ensure that every future project could fully mitigate potentially significant impacts. Therefore, impacts related to VMT would remain significant and unavoidable at this program level of review, greater than the project.

Table 7-2 VMT Analysis Results Comparison of the Reduced Project Alternative to the Project							
Scenario	Total VMT (miles)	Total Population	Total Employees	Service Population	VMT Per Service Population	VMT Per Service Rate Above Threshold	Percent VMT Reduction Needed
Reduced Project Alternative	21,008,186	477,019	337,910	814,929	25.78	1.72	.36.7
Project	21,337,558	517,654	337,910	855,564	24.94	0.88	3.5
SOURCE: Appendix H.							

q. Utilities and Service System

Adequate water, wastewater, and solid waste capacity exists to accommodate future growth within the City. Since the Reduced Project Alternative would develop fewer residential uses than the project, water, wastewater, and solid waste capacity would exist to serve this alternative. The Reduced Project Alternative would also consume less electrical power, natural gas, and telecommunications services that the project. Future development under the Reduced Project Alternative would be subject to existing City requirements to comply with the Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential) (PPP 14-2) and the Irvine Sustainability Community Initiative (PPP 14-3) to reduce energy consumption. Therefore, impacts associated with utilities and services would be less than significant, less than the project.

s. Wildfire

The reduced amount of development under this alternative would be designed, constructed, and maintained in accordance with applicable standards associated with the Safety Element Update, Local Hazard Mitigation Plan (LHMP), Emergency Operations Plan (EOP), and Emergency Access Plan. New development and redevelopment under the Reduced Project Alternative would also need to consider water supply, access, building ignition and fire resistance, fire protection systems and equipment, defensible space, and vegetation management, and demonstrate consistency with the requirements of California Building Code Chapter 7A, the International Wildland-Urban Interface Code, and the City Municipal Code. Furthermore, the updated Safety Element includes goals, objectives, and policies addressing wildfires that would further support the City's goals of addressing wildfire events. Therefore, impacts associated with wildfire would be less than significant and less than the project.

7.2.2.3 Conclusion Regarding the Reduced Project Alternative

As described in Section 7.2.2.2 above, the Reduced Project Alternative would result in the same significance conclusions as the project, but the intensity of the impacts would be different. Impacts associated with aesthetics, agricultural and forestry resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, population and housing, public services and recreation, utilities and services, and wildfire would be less than significant, the same as the project,

but the intensity of those impacts would be less than the project due to development of fewer residential units. Impacts associated with biological resources and land use would be mitigated to a level less than significant, the same as the project, but the intensity of those impacts would be less than the project due to development of fewer residential units. Impacts associated with historic resources, paleontological resources, and noise would be mitigated but remain significant and unavoidable, the same as the project, but the intensity of those impacts would be less than the project due to development of fewer residential units. Impacts associated with air quality, greenhouse gases (GHGs), and transportation would be significant and unavoidable, the same as the project, but the intensity of those impacts would be greater than the project. This is because the Reduced Project Alternative would develop less housing in the City, and therefore would not reduce the jobs/housing imbalance that exists in the City to the same degree as the project, resulting in greater vehicle miles traveled and associated air quality and GHG emissions.

7.3 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) requires an EIR to identify the environmentally superior alternative. If the No Project Alternative is the environmentally superior alternative, the EIR must identify an environmentally superior alternative from the other alternatives. The project itself may not be identified as the environmentally superior alternative. The no project alternative is the superior alternative due to a lower cumulative impact on the environment than is expected for the proposed project and the Reduced Project Alternative.

The Reduced Project Alternative would be the environmentally superior alternative, other than the No Project Alternative, because it would incrementally reduce significant impacts associated with aesthetics, biological resources, cultural and tribal cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use, noise, population and housing, public services and recreation, utilities and services, and wildfire compared to the project. However, none of the potentially significant impacts of the project would be completely avoided.

Compared to the 57,656 units proposed under the project, the Reduced Project Alternative would only propose 42,637 residential units, a difference of 15,019 units. While the number of residential units proposed under the Reduced Project Alternative would be less than the project, this alternative would still exceed the City's RHNA allocation of 23,610 units, and therefore would be consistent with applicable housing statute, including no-net loss and affirmatively furthering fair housing requirements. Therefore, the Reduced Project Alternative would meet all the project's objectives.

Chapter 8.0
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Air Quality and Noise Modeling

- William Maddux, Senior Noise Technical Specialist
- Haseeb Qureshi, Senior Air Quality Technical Specialist

APPENDIX A

NOP and Comment Letters

NOTICE OF PREPARATION

Program Environmental Impact Report

Irvine 2045 Focused General Plan Update

Date: July 21, 2023

To: Reviewing Agencies, Interested Parties, and Organizations

Subject: Notice of Preparation of a Program Environmental Impact Report for the Irvine 2045 General Plan Update

Scoping Meeting: Tuesday, August 1, 2023 at 6:00 p.m.
Virtual meeting accessible at the following link:
https://us06web.zoom.us/j/85141324890?pwd=eWdCN2NQaURTN21Vd245VmRHWE8zZz09
Passcode: 085026

Comment Period: July 21, 2023 to August 21, 2023

The City of Irvine (City) is preparing the 2045 Focused General Plan Update (project) that will serve as the long-range vision of the City for the next 20 to 25 years. The City as the lead agency has determined that the project will require the preparation of a Program Environmental Impact Report (Program EIR) in compliance with the California Environmental Quality Act (CEQA; California Public Resources Code, Section 21000 et seq.), and Title 14 of the California Code of Regulations (CCR; hereafter CEQA Guidelines, 14 CCR 15000 et seq.). The City has prepared this Notice of Preparation (NOP) in accordance with CEQA Guidelines Sections 15082(a) and 15375.

We need to know your views or the views of your agency or organization as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the project. If applicable, your agency will need to use the Program EIR prepared by our agency when considering your permit(s) or other approval(s) for the project. The project description, location, and the potential environmental effects are contained in the attached materials. Since the City has determined that a Program EIR is required for the project, pursuant to Section 15060(d) of the CEQA Guidelines (14 CCR 15000 et seq.), preparation of an Initial Study is not required and, therefore, one has not been prepared. Due to time limits mandated by state law, your response to this NOP must be submitted at the earliest possible date but no later than the close of the NOP review period, which runs as follows: July 21, 2023 to August 21, 2023. Written comments should be addressed to:

Marika Poynter
City of Irvine
1 Civic Center Plaza
Irvine, CA 92606-5207
mpoynter@cityofirvine.org

Project Title: Irvine 2045 Focused General Plan Update

Project Applicant: City of Irvine

PROJECT SETTING

The City and its sphere of influence (SOI) encompass over 66 square miles located within the coastal and foothill region of central Orange County. Irvine is adjacent to the cities of Newport Beach, Lake Forest, Tustin, Santa Ana, Laguna Hills, Laguna Woods, and Laguna Beach. The City is a growing community with an increasing need for housing to accommodate its population. According to the California Department of Finance (DOF), the City has a total population of 303,051 (including 16,432 living in group quarters), which represents a 43 percent increase since 2010 and a 112 percent increase since 2000. The City of Irvine is the second largest jurisdiction in the County of Orange.

PROJECT DESCRIPTION

With the adoption of the certified 2021-2029 Housing Element in May 2022, the City is required to update the appropriate elements of the General Plan to accommodate the residential site inventory from the 2021-2029 Housing Element. This includes updates to the land use element and the circulation element. Additionally, the City would update the open space element, safety element, and noise element to address statutory requirements. The City would introduce an environmental protection and climate action element and would also incorporate health and wellness throughout the updated General Plan. The project would provide long-term policy direction and communicate the vision, values, and goals for the City's physical development and overall quality of life. The project would serve to identify areas of opportunity and provide options to enhance development in key focus areas of the City.

Consistent with the 2021-2029 Housing Element, the project would update the General Plan land use element to support the City's Regional Housing Needs Assessment (RHNA) of 23,610 units. To ensure consistency with housing statute, including no-net loss and affirmatively furthering fair housing requirements, the 2021-2029 Housing Element identified adequate sites to accommodate 57,656 new residential units. The City's existing General Plan has a significant amount of unbuilt non-residential square footage available throughout the planning areas identified in the 2021-2029 Housing Element site inventory that would be available to convert to residential at a rate of 60 percent. This results in a residential equivalent of 23,113 units. Additionally, there are a remaining 4,249 units entitled throughout the City in the General Plan. As a result, the City would need to add an additional 30,294 new units to the General Plan. Specifically, to accommodate the City's RHNA requirement for new residential units, the project would implement 2021-

2029 Housing Element through the introduction of additional residential and/or mixed-use development throughout the City using overlay zones and/or specific plans to allow greater flexibility for property owners and developers. The overlays would promote higher density residential and mixed use in three main focus areas, targeted retail centers, conversion of hotel/motel, and on religious and school sites. The majority of the future residential growth would occur in the three main focus areas that are most suited for new growth and development as they are located near existing job centers, are along major travel corridors with access to existing and future public transit opportunities. Descriptions of these three key focus areas with the majority of the future residential potential are presented below:

- Focus Area 1 – Greater Irvine Business Complex Area: Planning Area 36 (Irvine Business Complex) and Planning Area 19 (Rancho San Joaquin) : Focus Area 1 includes expanding a residential and/or mixed-use overlay to the entire Irvine Business Complex (IBC) and the specific sites identified in the 2021-2029 Housing Element site inventory located in Rancho San Joaquin. Over the past 20 years, the IBC has transitioned from predominantly non-residential uses to a mixed-use area that is currently governed by the 2007 IBC Vision Plan. Under the existing General Plan, the IBC has a maximum of 15,000 units. The IBC continues to be one of the two employment centers located within the City and remains an opportunity area for high density residential. The IBC is connected to the Tustin Transportation Center (Metrolink and OCTA transit service) through the iShuttle and has direct access to Interstate 405, State Route 73, and State Route 55. The project proposes a new residential overlay and/or specific plan that would increase the total number of residential permitted in the Greater Irvine Business Complex Area by an additional 15,000 units.

- Focus Area 2 - Greater Spectrum Area: Planning Area 13 (Irvine Spectrum 4), Planning Area 31 (Irvine Spectrum 6), Planning Area 32 (Irvine Spectrum 3), and Planning Area 33 (Irvine Spectrum Center): The Greater Spectrum Area incorporates three non-residential planning areas (13, 31, and 32) that are located adjacent to the Irvine Spectrum Center area, are emerging employment centers, are located near the Irvine Transportation Center (ITC – Metrolink, Amtrak, and OCTA transit service), and with the introduction of a residential overlay and/or specific plan could transition to a network of micro-villages or residential nodes, connected by a variety of multi-modal and complete street strategies that provide new opportunities for residents and businesses in Irvine. The project proposes a new residential overlay and/or specific plan that would introduce a total number of 20,000 residential units to the Greater Spectrum Area.

- Focus Area 3 – Great Park Neighborhood Transit Village: Planning Area 51 (Great Park Neighborhood): The Great Park Neighborhood is an existing mixed-use planning area that features a mix of residential products at varying densities surrounding the Irvine Great Park. There are approximately 1,900 units remaining in the existing General Plan intensity, but a significant amount of the planning area remains vacant with no additional residential intensity. The project would increase

the number of residential units permitted in the Great Park with a focus on higher density product located near or adjacent to the ITC. The Great Park Neighborhood Transit Village area would have direct access to Focus Area 2, the Greater Spectrum Area through a network of proposed multi-modal improvements. The project would increase the residential intensity in Planning Area 51 by an additional 13,989 residential units.

The remaining units required by the City's RHNA assessment would be accommodated outside of the aforementioned focus areas, throughout the City, using the same residential overlays and/or specific plans. The project would encourage a micro-village approach, building upon the City's current approach to master planning in the City of Irvine. Utilizing a micro-village approach to planning would ensure that future development is balanced with a mix of uses including neighborhood supporting square footage, open space, and non-residential square footage that are connected through multi-modal transportation and complete street strategies. Figure 1 presents the boundaries of the three focus areas.

PROBABLE ENVIRONMENTAL EFFECTS

The City has determined that a Program EIR will be prepared for the project. Section 15168 of the CEQA Guidelines states that a Program EIR may be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically; (2) as logical parts in the chain of contemplated actions; (3) in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that can be mitigated in similar ways.

The Program EIR will be prepared in accordance with the requirements of CEQA Statute and Guidelines, as amended. Pursuant to Section 15146 of the CEQA Guidelines, the degree of specificity in the Program EIR will correspond to the degree of specificity involved in the project. The Program EIR will focus on the primary effects that can be expected to follow from adoption of the project and would allow future development in the three specific focus areas to move forward with streamlined environmental review. Specific development or construction projects within the three focus areas may be required to prepare subsequent site-specific analysis as required by the Program EIR, including traffic and/or access related studies. Based on the preliminary analysis of the project, the following environmental impact categories and their associated impact thresholds will be examined in the Program EIR: Aesthetics, Agricultural/Forest Resources, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazard/Hazardous Materials, Hydrology/Water Quality, Land Use/Planning, Mineral Resources, Noise, Population/Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities/Service Systems, and Wildfire.

The Draft Program EIR will address the short- and long-term effects of the project on the environment. A mitigation framework will be proposed for impacts that are determined to

be significant. A mitigation monitoring program will also be developed as required by Section 15100 of the CEQA Guidelines.

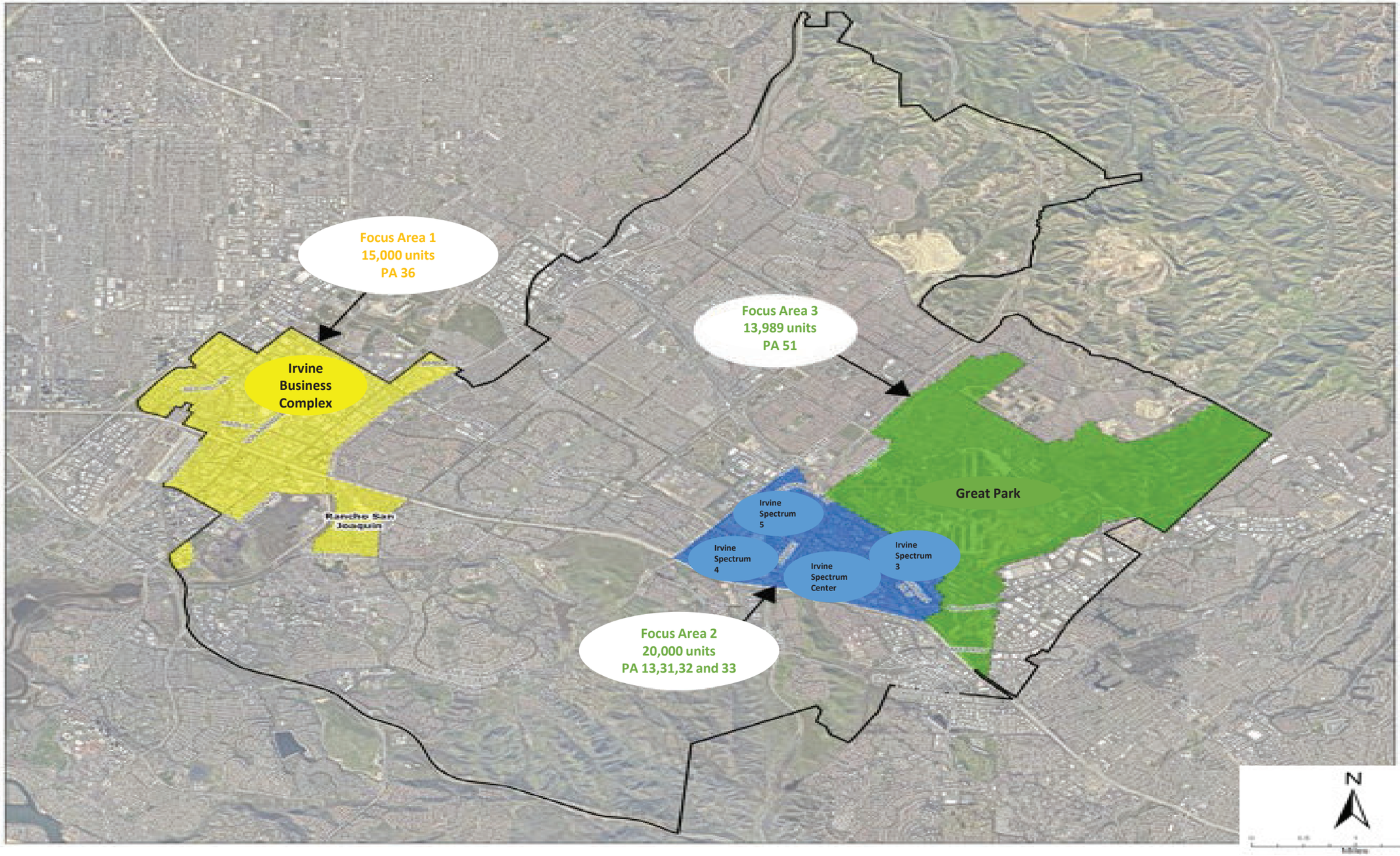
SCOPING MEETING

Pursuant to Section 21083.9(a)(2) of CEQA (California Public Resources Code, Section 21000 et seq.), scoping meetings are required for projects that may have statewide, regional, or area-wide environmental impacts. The City has determined that this project meets this threshold. A public scoping meeting has been scheduled and will be held by the City on Tuesday, August 1, 2023 at 6:00 p.m. The meeting will be virtual and can be accessed at the link provided above. Verbal and written comments regarding the scope of the proposed Program EIR will be accepted at the meeting. Written comments can also be mailed to the above-mentioned address, addressed to Marika Poynter, before the close of the NOP public comment period.

Please contact Marika Poynter at mpoynter@cityofirvine.org with any questions regarding this notice or the scoping meeting.

Marika A Poynter
Manager of Planning Services

21 July 2023
Date



Legend

- Focus Area 1 - PA 36 and 19
- Focus Area 2 - PA 13, 31, 32 and 33
- Focus Area 3 - PA 51

RECON

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FIGURE 1
2045 Focused General Plan Update Focus Areas

AIRPORT LAND USE COMMISSION

FOR ORANGE COUNTY

3160 Airway Avenue • Costa Mesa, California 92626 • 949.252.5170 fax: 949.252.6012

August 21, 2023

Marika Poynter
City of Irvine
1 Civic Center Plaza
Irvine, CA 92606-5207

Subject: Notice of Preparation of a Program EIR for the Irvine 2045 General Plan Update

Dear Ms. Poynter:

Thank you for the opportunity to provide comments on the Notice of Preparation (NOP) of a Program EIR for the Irvine 2045 General Plan Update. In the context of the Airport Environs Land Use Plan for John Wayne Airport *(AELUP for JWA)*, the Airport Land Use Commission for Orange County (ALUC) offers the following comments and requests consideration of these comments as you proceed with your DEIR and General Plan Update.

The City of Irvine is located within the AELUP Notification Area for JWA. The DEIR and General Plan should address height restrictions and imaginary surfaces by discussing Federal Aviation Administration (FAA) Federal Aviation Regulation (FAR) Part 77 as the criteria for determining height restrictions for projects located within the airport planning area. To ensure the safe operation of aircraft activity at JWA, structures anywhere in the JWA airport planning area should not exceed the applicable elevations defined in FAR Part 77 (Objects Affecting Navigable Air Space). The General Plan should include height policy language and a mitigation measure in the DEIR that states that no buildings will be allowed to penetrate the FAR Part 77 imaginary surfaces for JWA to ensure the protection of its airspace.

Development proposals within the City, which include the construction or alteration of structures more than 200 feet above ground level, require filing with the FAA and Airport Land Use Commission (ALUC) notification. Projects meeting this threshold must comply with procedures provided by Federal and State law, and with all conditions of approval imposed or recommended by FAA and ALUC including filing a Notice of Proposed Construction or Alteration (FAA Form 7460-1). Depending on the maximum building heights that will be allowed within the General Plan, the City may wish to consider a mitigation and condition of approval specifying this 200 feet above ground level height threshold. In addition, any project that penetrates the Notification Surface for JWA is required to file FAA Form 7460-1.

Portions of the City of Irvine fall within the 60 and 65 dB CNEL noise contours for JWA including sections of the Irvine Business Complex (Planning Area 36) located to the north and west of the Airport. ALUC does not support residential uses within the 65 dB CNEL contour. In

accordance with the *AELUP for JWA* Section 3.2.3, all residential units within the 65 dB CNEL contour are inconsistent in this area unless it can be shown conclusively that such units are sufficiently sound attenuated for present and projected noise exposure so as not to exceed an interior standard of 45 dB CNEL.

As for residential development within the 60 dB CNEL contour, the ALUC may not find residential units incompatible in this area but would strongly recommend that residential units be limited or excluded from this area unless sufficiently sound attenuated not to exceed an interior level of 45 db. Because of the IBC proximity to airport noise, any prospective resident should be notified of the presence of aircraft overflight. We recommend that the DEIR include reference to where in the City's General Plan or Zoning Code this notification requirement can be found.

Portions of the City of Irvine are located within Safety Zones 2, 3, 4 and 6, and the primary approach corridor for JWA. The DEIR and General Plan should include a discussion of how to minimize locating residential and other noise-sensitive uses within these Safety Zones.

We also recommend that the DEIR and the General Plan Update identify if the development of heliports will be allowed within your jurisdiction. Should the development of heliports occur within your jurisdiction, proposals to develop new heliports may be submitted through the City to the ALUC for review and action pursuant to Public Utilities Code Section 21661.5. Proposed heliport projects must comply fully with the state permit procedure provided by law and with all conditions of approval imposed or recommended by FAA, by the ALUC for Orange County and by Caltrans/Division of Aeronautics.

To address consistency with the *AELUP for Heliports* we suggest adding the following language to your General Plan Update and inclusion as a mitigation measure in the DEIR:

> "The City will ensure that development proposals including the construction or operation of a heliport or helistop comply fully with permit procedures under State law, including referral of the project to the ALUC by the applicant, and with all conditions of approval imposed or recommended by the Federal Aviation Administration (FAA), ALUC, and Caltrans, including the filing of a Form 7480-1 (Notice of Landing Area Proposal) with the FAA. This requirement shall be in addition to all other City development requirements."

Section 21676 of the PUC requires that prior to the adoption or amendment of a general plan or specific plan, or the adoption or approval of a zoning ordinance or building regulation within the planning boundary established by the Airport Land Use Commission pursuant to Section 21675, the local agency shall first refer the proposed action to the ALUC. We recommend that the City include policy in its General Plan and a mitigation measure in the DEIR that states that the City shall refer projects to the Airport Land Use Commission (ALUC) for Orange County as required by Section 21676 of the California Public Utilities Code to determine consistency of projects with the *AELUP for JWA.*

With respect to submittals, please note that the Commission requests that referrals be submitted - to the ALUC for a determination between the Planning Commission and City Council hearings. Since the ALUC meets on the third Thursday afternoon of each month, complete submittals must be received in the ALUC office by the first of the month to ensure sufficient time for review, analysis, and agendizing. A General Plan submittal form is available at:

https://www.ocair.com/about/administration/airport-governance/commissions/airport-land-use-commission/

A separate form should be used for each element of the General Plan that is being amended. Thank you for the opportunity to comment on this Notice of Preparation. Please contact Julie Fitch at (949) 252-5284 or via email at jfitch@ocair.com with any questions.

Sincerely,

Lea U. Choum

Lea U. Choum
Executive Officer

From: Zachariasen, Judith@DOC
To: Marika Poynter
Cc: OPR State Clearinghouse; OLRA@DOC
Subject: Irvine 2045 Focused General Plan Update - SCH #2023070463
Date: Monday, August 21, 2023 4:35:07 PM
Attachments: image001.png

CAUTION: EXTERNAL EMAIL

Dear Marika Poynter,

The California Geological Survey (CGS) has received the Notice of Preparation of a Program Environmental Impact Report (Program EIR) for the Irvine 2045 General Plan Update. This email conveys the following recommendations from CGS concerning geologic issues related to the project area:

1. Liquefaction and Landslide Hazards

The project area encompasses earthquake zones of required investigation (ZORI) for liquefaction and landslides mapped by CGS. CGS has published Earthquake Zones of Required
Investigation Maps (EZRIM) for liquefaction and landsliding covering the Tustin, Lake Forest, and Laguna Beach quadrangles, all of which affect the City of Irvine and the project area. The Program EIR and supporting documents should address this hazard as it relates to project development.
The combined extent of these EZRIM can be viewed here:
https://maps.conservation.ca.gov/cgs/EQZApp/app/
Individual Seismic Hazard Zone Reports, EZRIM, and associated GIS data are available for download here:
https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps

CGS suggests the hazard and the zones of required investigation for liquefaction and landsliding be shown and discussed in the Program EIR.

2. Ground Shaking Hazards

The project area is not located in an Earthquake Fault Zone mapped by CGS. However, several active faults are nearby, and the site could be subject to significant ground shaking. The Program EIR and supporting documents should address this hazard as it relates to the project development. Additional information about ground shaking hazard can be obtained at the following sites: https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=14d2f75c7c4f4619936dac0d14e1e468
https://earthquake.usgs.gov/scenarios/catalog/bssc2014/

If you have any additional comments or questions, please feel free to call or email.

Thank you,
Judy Zachariasen

Judith Zachariasen, PhD, PG, CEG
Senior Engineering Geologist
Fault Zoning Unit Supervisor
Seismic Hazards Program
California Geological Survey

California Department of Conservation
715 P Street, MS 1900, Sacramento, CA 95814
T: (916) 879-2844
E: judith.zachariasen@conservation.ca.gov

IRVINE UNIFIED SCHOOL DISTRICT
5050 Barranca Parkway, Irvine, California 92604-4652 • 949/936-5000 • FAX 949/936-5259 • www.iusd.org

August 18, 2023

Sent via email: mpoynter@cityofirvine.org

Marika A. Poynter
Manager of Planning Services
City of Irvine
1 Civic Center Plaza
Irvine, CA 92606-5207

Subject: Response to Notice of Preparation, Program Environmental Impact Report, Irvine 2045 Focused General Plan Update

Dear Ms. Poynter:

Thank you for the opportunity to provide comments on the scope for the upcoming Program Draft Environmental Impact Report (EIR) for the 2045 Focused General Plan Update (Project). The Irvine Unified School District (District) welcomes the opportunity to review the Draft EIR for potential environmental impacts on its schools and to work collaboratively with the City to maintain the District's reputation for high quality education.

It is our understanding that the General Plan update is required following the adoption of the 2021-2029 Housing Element in May 2022. Moreover, the City plans to update the land use, circulation, open space, safety, and noise elements to add 30,294 residential units to the Genal Plan. To accomplish this, the City will establish "overlay zones" and/or specific plans to allow greater flexibility for property owners and developers. The overlays would promote higher density residential and mixed use in three (3) main focus areas, targeted retail centers, conversion of hotel/motel, and on religious and school sites. The majority of the future residential growth would occur in the following three (3) main focus areas:

- **Focus Area 1 – Greater Irvine Business Complex Area: Planning Area 36 (Irvine Business Complex) and Planning Area 19 (Rancho San Joaquin)**

  The Project entails a new overlay or specific plan to increase the total number of residential units by 15,000.

- **Focus Area 2 – Greater Spectrum Area: Planning Area 13 (Irvine Spectrum 4), Planning Area 31 (Irvine Spectrum 6), Planning Area 32 (Irvine Spectrum 3), and Planning Area 33 (Irvine Spectrum Center)**

  The Project would create a new overlay or specific plan to allow a total of 20,000 residential units within the Greater Spectrum Area. The increase in units is not identified.

- **Focus Area 3 Great Park Neighborhood Transit Village: Planning Area 51 (Great Park Neighborhood)**

  The Project would increase the number of residential units allowed by 13,989.

BOARD OF EDUCATION
PAUL BOKOTA / LAUREN BROOKS / JEFF KIM / KATIE MCEWEN / CYRIL YU
TERRY L. WALKER, *Superintendent of Schools*
JOHN FOGARTY, *Assistant Superintendent, Business Services* / BRIANNE FORD, *Assistant Superintendent, Information Technology*
EAMONN O'DONOVAN, *Assistant Superintendent, Human Resources* / CASSIE PARHAM, *Assistant Superintendent, Education Services*
IUSD . . . providing the highest quality educational experience we can envision.

IRVINE UNIFIED SCHOOL DISTRICT

In addition, beyond the Focus Areas, the City will address additional units as follows:

- **Remaining Regional Housing Needs Allocation (RHNA) Units**

  The remaining units required by the City's RHNA assessment would be accommodated through overlays and specific plans across the city outside the focus areas. The City plans to target retail centers, conversion of hotels/motels, and religious and school sites.

Comments on the Notice of Preparation

The District's student generation rates for grades K-6, 7-8, and 9-12 are presented in Table 1. The District requests that the Draft EIR identify the number, type, and location of units anticipated and apply these generation rates to determine the total number of students.

The District requests additional detail on the type of units anticipated, because the number of students generated is largely determined by the type of unit. The Notice of Preparation (NOP) does not provide details on the types of units proposed.

Please clarify the increase in the number of residential units in Focus Area 2. The NOP references 20,000 total units but does not include the increase.

TABLE 1. STUDENT GENERATION RATES

PRODUCT TYPE	K-6	7-8	9-12
High Density Multifamily (IBC)	0.040	0.007	0.017
High Density Multifamily (Spectrum)	0.086	0.016	0.026
Multifamily (Apartments)	0.133	0.038	0.056
Affordable (Apartments)	0.197	0.101	0.176
Single-Family Attached (Condos)	0.263	0.065	0.111
Single-Family Detached (Homes)	0.352	0.090	0.154

In addition to these generation rates, a new State-mandated Pre-Kindergarten (PK) program will be fully implemented in 2025. The District projects that enrollment in the PK program will be 80 to 90 percent of the Kindergarten cohort. The District requests that the Draft EIR include these additional students in its assessment of the Project's impact on school facilities. Note that PK and Kindergarten classes have special room requirements to accommodate young students.

Tables 2, 3, and 4 present the existing 2022-2023 enrollment data and capacities of the District's elementary/K-8, middle, and high schools, respectively. The reported capacities assume every classroom seat is perfectly filled with the correct grade-level student, which is infeasible. To accommodate the ebb and flow of students throughout the year, the District operates with 90 percent of capacity as full capacity. The District requests that the City use 90 percent of seats as full capacity in the analysis of the Project's school facility impacts.

IRVINE UNIFIED SCHOOL DISTRICT

TABLE 2. ELEMENTARY AND K-8 SCHOOL ENROLLMENT AND CAPACITY

SCHOOL	2022-2023 ENROLLMENT	CAPACITY AS # OF SEATS*
Alderwood Elementary and PK	812	905
Beacon Park K-8	1,035	1,061
Bonita Canyon Elementary	404	503
Brywood Elementary	560	599
Cadence Park K-8 and PK	924	1,000
Canyon View Elementary and PK	736	826
College Park Elementary	568	707
Culverdale Elementary and PK	576	783
Cypress Village Elementary and PK	1,057	1,141
Deerfield Elementary and PK	640	660
Eastshore Elementary	534	665
Eastwood and PK	627	697
Greentree Elementary	449	548
Loma Ridge Elementary	676	708
Meadow Park Elementary and PK	602	754
Northwood Elementary	516	676
Oak Creek Elementary	895	937
Plaza Vista K-8	798	975
Portola Springs and PK	886	972
Santiago Hills and PK	546	650
Solis Park Elementary (K-8 in 2024)	429	779
Springbrook Elementary and PK	506	670
Stonecreek Elementary	461	566
Stonegate Elementary	1,011	1,057
Turtle Rock Elementary and PK	836	911
University Park Elementary and PK	496	750
Vista Verde K-8	805	1,045
Woodbury Elementary and PK	1,070	1,158
Westpark Elementary and PK	826	911

*Note: Operational capacity runs at 90% of the number of seats available.

IRVINE UNIFIED SCHOOL DISTRICT

TABLE 3. MIDDLE SCHOOL ENROLLMENT AND CAPACITY

SCHOOL	2022-2023 ENROLLMENT	CAPACITY AS # OF SEATS*
Jeffrey Trail Middle School	1,078	1,170
Lakeside Middle School	635	956
Rancho San Joaquin Middle School	806	1,022
Sierra Vista Middle School	1,127	1,200
South Lake Middle School	601	796
Venado Middle School	583	914

*Note: Operational capacity runs at 90% of the number of seats available.

TABLE 4. HIGH SCHOOL ENROLLMENT AND CAPACITY

SCHOOL	2022-2023 ENROLLMENT	CAPACITY AS # OF SEATS*
Irvine High School	1,861	2,229
Northwood High School	2,251	2,333
Portola High School	2,296	2,400
University High School	2,165	2,600
Woodbridge High School	2,219	2,600

*Note: Operational capacity runs at 90% of the number of seats available.

The students generated by the addition of 30,294 residential units should be applied to the schools within their attendance areas. Please see Focus Areas 1, 2, and 3 below for the locations of District schools.

- **Focus Area 1**
  - Area Elementary Schools: Culverdale ES, Westpark ES, University Park ES
  - Area Middle Schools: Rancho San Joaquin MS, South Lake MS
  - Area High Schools: University HS, Woodbridge HS

- **Focus Area 2**
  - Area Elementary Schools: Cadence Park K-8, Oak Creek ES
  - Area Middle Schools: Cadence Park K-8, South Lake MS
  - Area High Schools: Portola HS, University HS

- **Focus Area 3**
  - Area Elementary/Middle Schools: Beacon Park K-8, Cadence Park K-8, Solis Park K-8
  - Area High Schools: Portola HS

IRVINE UNIFIED SCHOOL DISTRICT

The analysis of school impacts should identify the Focus Area schools that will reach capacity because of the proposed Project. Each school's impact should be addressed and the District's overall ability to fund all such supporting improvements should be considered including reservation of land for educational facility uses and the land acquisition and construction costs for potential new schools. A lack of sufficient funding may impact various other environmental issues, including the home-to-school travel distances. These issues should be addressed in the Draft EIR.

The NOP states that the City is targeting retail centers, conversion of hotels/motels, and religious and school sites for additional residential development. Please identify the number and type of residential units anticipated outside of the Focus Areas. Please explain how the City plans to target the District's school sites for future housing development.

The District requests that the Draft EIR address potential circulation/pedestrian safety impacts at school sites associated with additional residential development. To the extent that student generation exceeds the capacity of the schools in the Focus Area attendance areas and these students must attend more remote schools, the District requests the Draft EIR address the increase in traffic, vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions.

We welcome the opportunity to work closely with the City throughout the California Environmental Quality Act process and would welcome the opportunity to discuss these issues further.

If you have any questions, please contact me at (949) 936-5305 or kelvinokino@iusd.org.

Sincerely,

Kelvin Okino
Executive Director of Facilities and Construction
Irvine Unified School District

cc: Mr. John Fogarty, Irvine Unified School District
Mr. Jesse Barron, Irvine Unified School District

PEG COMPANIES

CELEBRATING TWENTY YEARS

Marika A. Poytner
Manager of Planning Services
1 Civic Center Plaza
Irvine, CA 92606

August 21, 2023

Re: Response to Notice of Preparation for 2045 General Plan Update Environment Impact Report

PEG Companies and its affiliates (together "PEG") would like to submit for inclusion of the Environmental Impact Study for the 2045 General Plan Update a proposed mixed-use residential and hospitality project located at 18700 McArthur Boulevard ("Project"). The tentative details of the Project are outlined below for your consideration.

PEG is pursuing 800 Class A, highly-amenitized residential units in conjunction with a 150 key high-end select-service hotel. The 6.45 acre site is currently home to the Artium Hotel, which will be completely redeveloped in pursuit of the Project. Congruent with the objectives of Focus Area 1 of the General Plan Update, the Project will provide a significant number of residential units designed to enhance the community fabric of the Irvine Business Complex, provide residential opportunities adjacent to major employers with walkability in mind, and integrate residents into the existing transportation infrastructure. Additionally, the hotel component of the Project will attract and accommodate travelers within walking distance of the John Wayne Airport.

PEG would welcome the opportunity to further discuss the proposed Project in concert with Irvine's Comprehensive Plan Update process.

Sincerely,

Tyler Phelps
Director, Development
949.610.6090
tphelps@pegcompanies.com

IRA CAPITAL

August 21, 2023

Marika A. Poytner
Manager of Planning Services
City of Irvine
1 Civic Center Plaza
Irvine, CA 92606

Re: Notice of Preparation for 2045 General Plan Update Environment Impact Report / 2722 Michelson Drive

Ms. Poytner:

Affiliates of IRA Capital own the approximately 9.35 acre site located at 2722 Michelson Drive on the southwest corner of Jamboree Road and Michelson Drive (APNs 445-102-11 and 445-102-12). By this letter, IRA respectfully requests that the Program Environmental Impact Report for the Irvine 2045 General Plan Update evaluate a mixed-use residential and/or hospitality project at this site consisting of up to one or more of the following:

1. 200 Residential Units per acre (i.e., 1,870 total Residential Units)
2. 500 Key Hotel
3. 200 Senior Housing Units
4. 500,000 SF Office

We believe the property is ideally suited for this level of density given its proximity to the airport, two freeways, as well as existing housing, employment, and commercial centers. We look forward to discussing our vision with City staff at your convenience.

Sincerely,

Daniel Sitz
Managing Director
949.556.3906
dsitz@iracapital.com

From: arwanthro@cox.net
To: Marika Poynter
Subject: Comments re: Notice of Preparation - Program EIR Irvine 2045 Focused General Plan Update
Date: Monday, August 7, 2023 1:37:04 PM

CAUTION: EXTERNAL EMAIL

August 4, 2023

Marika Poynter
City of Irvine
1 Civic Center Plaza
Irvine, CA 92606-5207
mpoynter@cityofirvine.org

Project Title: Notice of Preparation Program Environmental Impact Report (PEIR) Irvine 2045 Focused General Plan Update

Project Applicant: City of Irvine

Dear Ms. Poynter:

My name is Anne Whitehair, and I am writing to you as a representative and Board member of the California Cultural Resources Preservation Alliance, Inc. (CCRPA). CCRPA is a 501 (c) 3 non-profit organization with a mission to protect and preserve cultural resources such as sacred sites, archaeological sites, historical sites, and Traditional Cultural Places in Southern California, with a focus on Orange and Los Angeles Counties.

Thank you for the opportunity to comment on the Notice of Preparation of a Draft Environmental Impact Report for the proposed Irvine 2045 Focused General Plan Update. We believe that the project areas identified in the Notice are culturally sensitive and may contain archaeological sites. In particular, Focus Area 3 in the Great Park is geographically close to known areas of pre-historic tribal activity by the Acjachemen People in the Tomato Springs area near present-day Portola Springs Community Center.

We concur with your decision to examine multiple environmental impact categories in the Program EIR, particularly the categories of Cultural Resources and Tribal Cultural Resources. We look forward to the opportunity to review the Draft Program EIR and the proposed mitigation framework and monitoring programs when they are available.

Sincerely,

Anne R. Whitehair, MA
Bioarchaeology
Board Member and Secretary
California Cultural Resources Preservation Alliance, Inc.

Email: arwanthro@cox.net Cell: (714) 403-1753

From: MICHELE JACKNIK
To: Marika Poynter
Subject: 2045 General Plan Feedback
Date: Wednesday, July 26, 2023 3:40:50 PM

CAUTION: EXTERNAL EMAIL

Ms. Poynter:

I'm a 10 year resident of Stonegate Village near the Great Park. I'm writing in response to the Notice of Preparation of a Program Environmental Impact Report for the Irvine 2045 General Plan.

The concept of building almost 14,000 additional units in the Great Park is unrealistic given the lack of infrastructure to support them. The Woodbury Town Center is already seriously overcrowded because the Great Park does not have a locally available retail center. The Spectrum doesn't provide basic shopping needs for groceries, pharmacy, banking, etc. That's evident when it's hard to find parking in Woodbury on evenings and weekends. People prefer convenient neighborhood access that isn't always crowded. Irvine was built as a collection of self-contained villages, but the Great Park doesn't conform to that model.

Traffic is already heavy on Sand Canyon, especially during morning, mid afternoon, and evening rush times. The supposed timing of the lights hasn't significantly improved traffic flow. The reduction of one lane as you get closer to the 5 freeway makes the situation worse. It can take 15 minutes or more to drive the 4 miles from Crean High School to the 5 Freeway junction on Sand Canyon. Adding 14,000 units plus the 15,000 seat amphitheater and other planned amenities will severely impact traffic, and local residents.

I'm strongly opposed to the 2045 General Plan as currently proposed. Please consider common sense neighborhood consequences from intensive and excessive building. The vicinity around the Great Park can not absorb a dense urban plan in a suburban environment.

Concerned Resident,

Michele Jacknik
46 Diamond
Irvine, CA 92620

From: Larry Lin
To: Marika Poynter
Subject: Concern over poor planning of Irvine new development
Date: Saturday, July 29, 2023 10:43:05 AM

CAUTION: EXTERNAL EMAIL

Dear Ms. Poyneter,
My name is Larry Lin and I am a Stonegate home owner at 55 Cummings.
I came across a new proposal by city of Irvine's 2045 development plan that called for nearly 14,000 units in the Great Park. Not to mentioned the upcoming development of houses at the corner of Portola Parkway and Jeffrey up on the hill.
I can hardly imagine the impact on local streets this new development would bring about. With the Woodbury town center is already like a flee market with all the excessive residents coming this way to shop. We could not even find a parking place at the center Saturday morning when all grocery shoppers gushed out to the center. Other amenities like the planned 15,000 seat amphitheater will only add to magnitude of the problem.
I plead for the review and revisit of the proposal as an Irvine law abiding tax paying resident that the city of Irvine not to made the already deteriorating quality of living even worst.
Larry Lin (lungchang_lin@yahoo.com)
(614)-260-3916 (Mobile)

Laguna Greenbelt, Inc.

Norm Grossman
Laguna Greenbelt, Inc.
P.O. Box 860
Laguna Beach, CA 92652
(949) 494-8190
lgbsecretary@lagunagreenbelt.org

September 15, 2023

City of Irvine Community Development Department
Attn: Tim Gehrich, General Plan Update
P.O. Box 19575
Irvine, CA 92623-9575
gpupdate2045@cityofirvine.org

Re: Input on General Plan Updates

Dear Tim Gehrich and Staff Planners,

We are writing to weigh in on forthcoming General Plan updates in the City of Irvine to address climate resilience locally and regionally, with particular focus on the need to incorporate wildlife connectivity as a vital part of the City vision going forward.

As you know, In 2013, the City, FivePoint, and nonprofit partners achieved an important milestone - establishing a portion of the Irvine Wildlife Corridor at the Great Park. However, the Irvine Wildlife Corridor is only one segment of the longer Irvine-Laguna Wildlife Corridor (ILWC), spanning an urban landscape and connecting six miles between the Santa Ana Mountains and South Coast Wilderness.

There is State support for connectivity. Governor Newsom's 30 x 30 plan highlights connectivity within statewide guidelines for conservation. The ILWC has now been named as the first priority project for climate resiliency in the Southland region, and is a multi-benefit project that is essential for retaining and enriching the biodiversity and mitigation of the effects of climate change. Additionally, AB 2344 (Safe Roads Bill) directs transportation departments to prioritize connectivity in projects throughout the State.

This General Plan update is a special opportunity for the City to again be on the leading edge of conservation and climate change planning. We hope the City will reflect a robust attention to wildlife connectivity in light of emerging findings about how vital connectivity is to long-term urban sustainability.

We are grateful for the opportunity to participate in this process and look forward to a continued mutually beneficial relationship with the City of Irvine.

Sincerely,

Norm Grossman
President
Laguna Greenbelt, Inc.
www.wildlifecorridor.org
www.lagunagreenbelt.org

APPENDIX B

Irvine General Plan Update Air Quality and Greenhouse Gas Emissions Summary

MEMORANDUM

URBAN | CROSSROADS

DATE: March 12, 2024
TO: Nick Larkin, Recon Environmental, Inc.
FROM: Haseeb Qureshi, Shannon Wong
JOB NO: AQ & GHG Assessment

IRVINE GENERAL PLAN UPDATE AIR QUALITY & GREENHOUSE GAS EMISSIONS SUMMARY

Nick Larkin,

Urban Crossroads, Inc. is pleased to provide the following Air Quality & Greenhouse Gas Emissions Summary for the Irvine General Plan Update (**Project**). The City of Irvine is adjacent to the cities of Newport Beach, Costa Mesa, Orange, Lake Forest, Tustin, Santa Ana, Laguna Hills, Laguna Woods, and Laguna Beach, as well as unincorporated areas of the County. With the adoption of the certified 2021-2029 Housing Element in May 2022, the City is required to update the appropriate elements of the General Plan to accommodate the residential site inventory from the 2021-2029 Housing Element. This includes updates to the land use element and the circulation element. Additionally, the City would update the open space element, safety element, and noise element to address statutory requirements. The City would introduce an environmental protection and climate action element and would also incorporate health and wellness throughout the updated General Plan. The Draft Program EIR will address the short- and long-term effects of the project on the environment.

PROJECT SCENARIOS

The Project Scenarios evaluated in the Air Quality & Greenhouse Gas Emissions Summary are as follows:

- **Current General Plan/No Project** – This scenario represents the currently approved Buildout land uses. Future development includes unbuilt dwelling units and non-residential uses. The Great Park Framework Plan Phase 1 land uses are also included in this scenario. The Current General Plan land uses modeled for this assessment were obtained from Table 3-2 from the *Irvine General Plan Update VMT Study* prepared by Iteris, Inc.

- **Conservative Project Scenario** – This alternative evaluates the Current General Plan plus 57,656 RHNA housing units within the adopted Housing Site Inventory sites. The 57,656 new residential units consist of 55,395 new dwelling units and 2,261 unbuilt units already in the General Plan. For the purpose of evaluating potential effects, 55,395 dwelling units are analyzed under this alternative. Both Phase 1 and Buildout of the Great Park Framework Plan land uses and the extension of Ada from the Irvine Metrolink/Amtrak Station to Marine Way are also included in this scenario. The Conservative Project Scenario land uses modeled for this assessment were obtained from Tables 2-1 and 2-3 from the *Irvine General Plan Update VMT Study* prepared by Iteris, Inc.
- **Cumulative Plus Conservative Project Scenario** – This scenario evaluates the Conservative Project Scenario plus additional cumulative projects that are assumed to be built in the background conditions in both the City of Irvine and in surrounding jurisdictions. Cumulative projects include known future residential development in adjacent Cities. The Cumulative Plus Conservative Project Scenario land uses modeled in this assessment were obtained from Tables 2-1, 2-3, and 2-4 from the *Irvine General Plan Update VMT Study* prepared by Iteris, Inc.

AIR QUALITY EMISSIONS

REGIONAL CONSTRUCTION EMISSIONS SUMMARY

Based on information provided by the City, a worst-case construction scenario for a future development occurring as a result of project implementation is expected to include the development of 1,500 units, with an average size of 670 square-feet (small apartments), on a 15-acre site. The estimated maximum daily construction emissions without mitigation are summarized on Table 1. Detailed construction model outputs are presented in Attachment A.

TABLE 1: OVERALL REGIONAL CONSTRUCTION EMISSIONS SUMMARY

Source	Emissions (lbs/day)[1]					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
2025	5.10	31.70	76.14	0.06	21.25	11.41
2026	4.82	18.26	72.45	0.06	15.90	4.07
Winter						
2025	5.07	20.23	68.03	0.06	15.96	4.12
2026	315.37	18.96	64.68	0.06	15.90	4.07
Maximum Daily Emissions	**315.37**	**31.70**	**76.14**	**0.06**	**21.25**	**11.41**

[1] The total maximum daily emissions number may not add up due to rounding.

REGIONAL OPERATIONAL EMISSIONS SUMMARY

CURRENT GENERAL PLAN/NO PROJECT ALTERNATIVE

The estimated operation-source emissions from the Current General Plan/No Project Alternative are summarized in Table 2. Detailed operation model outputs are presented in Attachment B.

TABLE 2: CURRENT GENERAL PLAN/NO PROJECT OPERATIONAL EMISSIONS

Source	Emissions (lbs/day)[2]					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Mobile Source	1,068.28	1,681.22	33,999.83	119.11	14,476.88	3,698.14
Area Source	8,723.10	2,312.77	14,295.12	14.68	191.12	187.78
Energy Source	84.10	1,489.51	994.74	9.17	116.20	116.20
Total Maximum Daily Emissions	**9,875.48**	**5,483.50**	**49,289.69**	**142.96**	**14,784.20**	**4,002.12**
Winter						
Mobile Source	1,047.45	1,839.69	29,526.59	114.21	14,476.88	3,698.14
Area Source	7,114.92	2,194.52	933.84	14.01	177.43	177.43
Energy Source	84.10	1,489.51	994.74	9.17	116.20	116.20
Total Maximum Daily Emissions	**8,246.47**	**5,523.72**	**31,455.17**	**137.39**	**14,770.51**	**3,991.77**

[2] The total maximum daily emissions number may not add up due to rounding.

CONSERVATIVE PROJECT/PROPOSED PROJECT SCENARIO

The estimated operation-source emissions from the Conservative Project/Proposed Project Scenario are summarized in Table 3. Detailed operation model outputs are presented in Attachment C.

TABLE 3: CONSERVATIVE PROJECT/PROPOSED PROJECT SCENARIO OPERATIONAL EMISSIONS

Source	Emissions (lbs/day)[3]					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Mobile Source	47.06	74.06	1,497.81	5.25	637.76	162.92
Area Source	1,671.31	948.26	3,590.26	6.00	75.77	75.41
Energy Source	16.63	284.60	124.17	1.81	22.97	22.97
Total Maximum Daily Emissions	**1,735.00**	**1,306.92**	**5,212.24**	**13.06**	**736.50**	**261.30**
Winter						
Mobile Source	46.14	81.04	1,300.75	5.03	637.76	162.92
Area Source	1,391.67	918.91	391.02	5.87	74.29	74.29
Energy Source	16.63	284.60	124.17	1.81	22.97	22.97
Total Maximum Daily Emissions	**1,454.44**	**1,284.55**	**1,815.94**	**12.71**	**735.02**	**260.18**

[3]The total maximum daily emissions number may not add up due to rounding.

CUMULATIVE PLUS CONSERVATIVE/PROPOSED PROJECT SCENARIO

The estimated operation-source emissions from the Cumulative Plus Conservative/Proposed Project Scenario are summarized in Table 4. Detailed operation model outputs are presented in Attachment D.

TABLE 4: CUMULATIVE PLUS CONSERVATIVE PROJECT/PROPOSED PROJECT SCENARIO REGIONAL OPERATIONAL EMISSIONS

Source	Emissions (lbs/day)[4]					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Mobile Source	56.42	88.80	1,795.78	6.29	764.63	195.33
Area Source	2,127.01	1,204.91	4,561.45	7.63	96.28	95.82
Energy Source	21.44	367.06	160.16	2.34	29.63	29.63
Total Maximum Daily Emissions	**2,204.87**	**1,660.77**	**6,517.39**	**16.26**	**890.54**	**320.78**
Winter						
Mobile Source	55.32	97.17	1,559.51	6.03	764.63	195.33
Area Source	1,771.78	1,167.61	496.86	7.45	94.40	94.40
Energy Source	21.44	367.06	160.16	2.34	29.63	29.63
Total Maximum Daily Emissions	**1,848.54**	**1,631.84**	**2,216.53**	**15.82**	**888.66**	**319.36**

[4]The total maximum daily emissions number may not add up due to rounding.

AIR QUALITY EMISSIONS SUMMARY

The estimated total operation-source emissions for all Project Scenarios are summarized in Table 5.

TABLE 5: TOTAL REGIONAL OPERATIONAL EMISSIONS BY PROJECT SCENARIO

Source	Emissions (lbs/day)[5]					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Current General Plan/No Project Scenario	9,875.47	5,483.50	49,289.69	142.96	14,784.21	4,002.13
Current General Plan + Conservative/Proposed Project Scenario	11,610.47	6,790.42	54,501.94	156.02	15,520.71	4,263.43
Current General Plan + Cumulative + Conservative/Proposed Project	12,080.36	7,144.26	55,807.08	159.22	15,674.74	4,322.91
Winter						
Current General Plan/No Project Scenario	8,246.47	5,523.72	31,455.17	137.39	14,770.52	3,991.77
Current General Plan + Conservative/Proposed Project	9,700.91	6,808.27	33,271.12	150.10	15,505.54	4,251.96
Current General Plan + Cumulative + Conservative/Proposed Project Scenario	10,095.01	7,155.56	33,671.70	153.22	15,659.18	4,311.13

[5] The total maximum daily emissions number may not add up due to rounding.

CO HOTSPOT ANALYSIS

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the SCAB a CO "hot spot" analysis was conducted in 2003 by the SCAQMD for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards. Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (*1992 CO Plan*), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—to generate a significant CO impact. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue in Los Angeles, which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively. The *2003 AQMP* estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm). The Level of Service Traffic Study completed for the project determined that roadway segment and intersection volumes under the Cumulative Plus Conservative Project Scenario would not exceed 100,000 average daily trips. Therefore, the Cumulative Plus Conservative Project Scenario would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations. Therefore, new development adjacent to heavily traveled streets or intersections would not expose sensitive receptors to substantial pollutant concentrations associated with CO hot spots, and impacts would be less than significant.

GREENHOUSE GAS EMISSIONS

CURRENT GENERAL PLAN/NO PROJECT SCENARIO

The estimated greenhouse gas emissions from the Current General Plan/No Project Scenario are summarized on Table 6. Detailed operation model outputs are presented in Attachment B.

TABLE 6: CURRENT GENERAL PLAN GHG EMISSIONS

Source	Emission (MT/year)[6]				
	CO_2	CH_4	N_2O	R	Total CO_2e
Annual construction-related emissions amortized over 30 years	102.34	2.73E-03	5.73E-03	1.27E-01	104.24
Mobile	1,851,493.34	38.22	51.64	207.16	1,868,045.34
Area	36,576.35	0.80	0.10	0.00	36,626.73
Energy	600,763.55	64.53	5.15	0.00	603,911.68
Water	62,683.06	1,703.66	41.05	0.00	117,506.72
Waste	20,754.76	2,074.36	0.00	0.00	72,613.85
Refrigerants	0.00	0.00	0.00	22,524.11	22,524.11
Total CO_2e (All Sources)	**2,721,332.67**				

[6] The total CO_2e number may not add up due to rounding.

CONSERVATIVE/PROPOSED PROJECT SCENARIO

The estimated greenhouse gas emissions from Conservative/Proposed Project Scenario are summarized in Table 7. Detailed operation model outputs are presented in Attachment C.

TABLE 7: CONSERVATIVE/PROPOSED PROJECT SCENARIO GHG EMISSIONS

Source	Emission (MT/year)[7]				
	CO_2	CH_4	N_2O	R	Total CO_2e
Annual construction-related emissions amortized over 30 years	102.34	2.73E-03	5.73E-03	1.27E-01	104.24
Mobile	81,564.63	1.68	2.28	9.13	82,293.80
Area	14,198.46	0.29	0.03	0.00	14,215.53
Energy	89,742.83	9.08	0.57	0.00	90,140.70
Water	2,520.86	73.28	1.76	0.00	4,878.51
Waste	3,781.74	377.97	0.00	0.00	13,231.02
Refrigerants	0.00	0.00	0.00	73.87	73.87
Total CO_2e (All Sources)	**204,937.67**				

[7] The total CO_2e number may not add up due to rounding.

CUMULATIVE PLUS CONSERVATIVE/PROPOSED PROJECT SCENARIO

The estimated greenhouse gas emissions from the Cumulative Plus Conservative/Proposed Project Scenario are summarized in Table 8. Detailed operation model outputs are presented in Attachment D.

TABLE 8: CUMULATIVE PLUS CONSERVATIVE/PROPOSED PROJECT SCENARIO GHG EMISSIONS

Source	Emission (MT/year)[8]				
	CO_2	CH_4	N_2O	R	Total CO_2e
Annual construction-related emissions amortized over 30 years	102.34	2.73E-03	5.73E-03	1.27E-01	104.24
Mobile	97,790.77	2.02	2.73	10.94	98,665.00
Area	18,041.11	0.37	0.04	0.00	18,062.80
Energy	115,228.46	11.65	0.73	0.00	115,737.60
Water	3,186.30	92.63	2.23	0.00	6,166.32
Waste	4,845.67	484.31	0.00	0.00	16,953.36
Refrigerants	0.00	0.00	0.00	92.48	92.48
Total CO_2e (All Sources)	**255,781.80**				

[8] The total CO_2e number may not add up due to rounding.

GREENHOUSE GAS EMISSIONS SUMMARY

The estimated greenhouse gas emissions from all Project Scenarios are summarized in Table 9.

TABLE 9: TOTAL GHG EMISSIONS BY PROJECT SCENARIO

Emission Source	Total CO_2e[9]
Current General Plan/No Project Scenario	2,721,332.67
Current General Plan + Conservative/Proposed Project Scenario	2,926,270.34
Current General Plan + Cumulative + Conservative/Proposed Project Scenario	2,977,114.47

[9] The total CO_2e number may not add up due to rounding.

ATTACHMENT A
CALEEMOD CONSTRUCTION EMISSIONS MODEL OUTPUTS

15937 - Irvine GPU (Construction) Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	15937 - Irvine GPU (Construction)
Construction Start Date	6/2/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	19.6
Location	33.688397, -117.841364
County	Orange
City	Irvine
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6804
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments High Rise	1,500	Dwelling Unit	15.0	1,005,000	0.00	—	4,470	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.09	5.10	31.7	76.1	0.06	1.37	19.9	21.3	1.26	10.2	11.4	—	21,847	21,847	0.55	1.24	68.2	22,299
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.06	315	20.2	68.0	0.06	0.47	15.5	16.0	0.43	3.69	4.12	—	21,155	21,155	0.57	1.24	1.77	21,541
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.21	20.1	11.4	39.6	0.04	0.30	8.99	9.25	0.28	2.14	2.38	—	12,369	12,369	0.32	0.72	15.7	12,609
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.59	3.67	2.09	7.24	0.01	0.06	1.64	1.69	0.05	0.39	0.43	—	2,048	2,048	0.05	0.12	2.59	2,087

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	6.09	5.10	31.7	76.1	0.06	1.37	19.9	21.3	1.26	10.2	11.4	—	21,847	21,847	0.55	1.24	68.2	22,299
2026	5.41	4.82	18.3	72.4	0.06	0.41	15.5	15.9	0.38	3.69	4.07	—	21,490	21,490	0.51	1.24	61.9	21,934
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	6.06	5.07	20.2	68.0	0.06	0.47	15.5	16.0	0.43	3.69	4.12	—	21,155	21,155	0.57	1.24	1.77	21,541
2026	5.38	315	19.0	64.7	0.06	0.41	15.5	15.9	0.38	3.69	4.07	—	20,813	20,813	0.54	1.24	1.60	21,198
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.07	1.73	9.53	21.7	0.02	0.30	5.10	5.41	0.28	1.48	1.76	—	6,175	6,175	0.18	0.31	7.33	6,281
2026	3.21	20.1	11.4	39.6	0.04	0.26	8.99	9.25	0.24	2.14	2.38	—	12,369	12,369	0.32	0.72	15.7	12,609
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.38	0.32	1.74	3.97	< 0.005	0.06	0.93	0.99	0.05	0.27	0.32	—	1,022	1,022	0.03	0.05	1.21	1,040
2026	0.59	3.67	2.09	7.24	0.01	0.05	1.64	1.69	0.04	0.39	0.43	—	2,048	2,048	0.05	0.12	2.59	2,087

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.09	< 0.005	0.05	—	0.05	0.05	—	0.05	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.84	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	199	199	< 0.005	0.01	0.75	202
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.02	10.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.74	1.74	< 0.005	< 0.005	< 0.005	1.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.98	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	232	232	< 0.005	0.01	0.88	236
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.14	6.14	< 0.005	< 0.005	0.01	6.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.02	1.02	< 0.005	< 0.005	< 0.005	1.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.44	2.33	0.01	0.10	—	0.10	0.09	—	0.09	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.76	0.76	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.42	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	1.12	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	265	265	< 0.005	0.01	1.01	269
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.1	21.1	< 0.005	< 0.005	0.04	21.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.49	3.49	< 0.005	< 0.005	0.01	3.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.28	2.58	3.22	0.01	0.11	—	0.11	0.10	—	0.10	—	591	591	0.02	< 0.005	—	593
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.47	0.59	< 0.005	0.02	—	0.02	0.02	—	0.02	—	97.9	97.9	< 0.005	< 0.005	—	98.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.35	3.83	3.75	60.5	0.00	0.00	14.1	14.1	0.00	3.31	3.31	—	14,337	14,337	0.17	0.51	54.3	14,548
Vendor	0.39	0.14	5.31	2.64	0.04	0.04	1.37	1.41	0.04	0.38	0.42	—	5,112	5,112	0.29	0.71	13.9	5,345
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.32	3.81	4.26	52.3	0.00	0.00	14.1	14.1	0.00	3.31	3.31	—	13,643	13,643	0.19	0.51	1.41	13,802
Vendor	0.39	0.14	5.52	2.71	0.04	0.04	1.37	1.41	0.04	0.38	0.42	—	5,115	5,115	0.29	0.71	0.36	5,334
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.05	0.93	1.05	13.5	0.00	0.00	3.44	3.44	0.00	0.80	0.80	—	3,410	3,410	0.05	0.13	5.78	3,455
Vendor	0.10	0.03	1.37	0.66	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,261	1,261	0.07	0.18	1.49	1,316
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.17	0.19	2.46	0.00	0.00	0.63	0.63	0.00	0.15	0.15	—	565	565	0.01	0.02	0.96	572
Vendor	0.02	0.01	0.25	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	209	209	0.01	0.03	0.25	218
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.74	0.62	5.69	7.49	0.01	0.22	—	0.22	0.20	—	0.20	—	1,384	1,384	0.06	0.01	—	1,389
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.04	1.37	< 0.005	0.04	—	0.04	0.04	—	0.04	—	229	229	0.01	< 0.005	—	230
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.74	3.64	3.29	56.9	0.00	0.00	14.1	14.1	0.00	3.31	3.31	—	14,063	14,063	0.17	0.51	48.9	14,269
Vendor	0.39	0.11	5.12	2.56	0.04	0.04	1.37	1.41	0.04	0.38	0.42	—	5,029	5,029	0.25	0.71	13.0	5,260
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.71	3.64	3.77	49.1	0.00	0.00	14.1	14.1	0.00	3.31	3.31	—	13,384	13,384	0.19	0.51	1.27	13,543
Vendor	0.39	0.10	5.33	2.62	0.04	0.04	1.37	1.41	0.04	0.38	0.42	—	5,032	5,032	0.25	0.71	0.34	5,250
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.14	2.09	2.18	29.5	0.00	0.00	8.05	8.05	0.00	1.88	1.88	—	7,832	7,832	0.11	0.30	12.2	7,935
Vendor	0.23	0.06	3.10	1.50	0.02	0.02	0.78	0.80	0.02	0.22	0.24	—	2,904	2,904	0.14	0.41	3.24	3,033
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.38	0.40	5.38	0.00	0.00	1.47	1.47	0.00	0.34	0.34	—	1,297	1,297	0.02	0.05	2.02	1,314
Vendor	0.04	0.01	0.57	0.27	< 0.005	< 0.005	0.14	0.15	< 0.005	0.04	0.04	—	481	481	0.02	0.07	0.54	502
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.68	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	186	186	< 0.005	0.01	0.02	188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.02	10.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.71	1.71	< 0.005	< 0.005	< 0.005	1.73
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	315	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	—	3.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.74	0.73	0.75	9.82	0.00	0.00	2.82	2.82	0.00	0.66	0.66	—	2,677	2,677	0.04	0.10	0.25	2,709
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.56	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	149	149	< 0.005	0.01	0.23	151
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	24.6	24.6	< 0.005	< 0.005	0.04	24.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	6/2/2025	6/30/2025	5.00	20.0	—
Site Preparation	Site Preparation	7/1/2025	7/15/2025	5.00	10.0	—
Grading	Grading	7/16/2025	8/27/2025	5.00	30.0	—
Building Construction	Building Construction	8/28/2025	10/22/2026	5.00	300	—
Paving	Paving	10/23/2026	11/20/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	11/21/2026	12/19/2026	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,080	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	160	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT

Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	216	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	2,035,125	678,375	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	15.0	0.00	—
Grading	—	—	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments High Rise	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.03	annual days of extreme heat
Extreme Precipitation	3.50	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	1.31	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	58.2
AQ-PM	68.7
AQ-DPM	84.2
Drinking Water	53.2
Lead Risk Housing	28.7
Pesticides	11.8
Toxic Releases	91.4
Traffic	88.9
Effect Indicators	—
CleanUp Sites	97.3
Groundwater	99.0
Haz Waste Facilities/Generators	98.4
Impaired Water Bodies	83.0
Solid Waste	97.7
Sensitive Population	—
Asthma	17.0
Cardio-vascular	20.8
Low Birth Weights	54.8
Socioeconomic Factor Indicators	—
Education	49.2
Housing	39.2
Linguistic	59.4
Poverty	55.5
Unemployment	5.57

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	47.45284229
Employed	76.27357885
Median HI	69.01065058
Education	—
Bachelor's or higher	70.42217375
High school enrollment	100
Preschool enrollment	16.21968433
Transportation	—
Auto Access	57.21801617
Active commuting	69.0619787
Social	—
2-parent households	42.17887848
Voting	31.99024766
Neighborhood	—
Alcohol availability	44.80944437
Park access	28.53843193
Retail density	94.63621199
Supermarket access	58.28307455
Tree canopy	29.41100988
Housing	—
Homeownership	19.54317978
Housing habitability	30.20659566
Low-inc homeowner severe housing cost burden	97.88271526
Low-inc renter severe housing cost burden	75.33684075
Uncrowded housing	22.40472219

Health Outcomes	—
Insured adults	50.3143847
Arthritis	98.6
Asthma ER Admissions	82.6
High Blood Pressure	98.8
Cancer (excluding skin)	96.0
Asthma	65.7
Coronary Heart Disease	98.7
Chronic Obstructive Pulmonary Disease	94.6
Diagnosed Diabetes	98.6
Life Expectancy at Birth	99.4
Cognitively Disabled	52.2
Physically Disabled	81.6
Heart Attack ER Admissions	76.4
Mental Health Not Good	58.7
Chronic Kidney Disease	99.0
Obesity	94.5
Pedestrian Injuries	72.5
Physical Health Not Good	93.2
Stroke	98.4
Health Risk Behaviors	—
Binge Drinking	4.3
Current Smoker	42.3
No Leisure Time for Physical Activity	69.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	25.4
Elderly	82.5
English Speaking	49.5
Foreign-born	80.9
Outdoor Workers	61.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	18.1
Traffic Density	92.8
Traffic Access	65.3
Other Indices	—
Hardship	52.6
Other Decision Support	—
2016 Voting	59.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64.0
Healthy Places Index Score for Project Location (b)	56.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Taken from client data
Construction: Construction Phases	Project start date taken from client data
Construction: Off-Road Equipment	T/L/B replaced with Crawler Tractor to accurately calculate disturbance for Site Preparation and Grading phases. Standard 8 hours work days.

ATTACHMENT B

CALEEMOD CURRENT GENERAL PLAN/NO PROJECT SCENARIO EMISSIONS MODEL OUTPUTS

15369 - Irvine GPU Current General Plan (Operations) Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	15369 - Irvine GPU Current General Plan (Operations)
Operational Year	2045
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	19.6
Location	33.688397, -117.841364
County	Orange
City	Irvine
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6804
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Non-Asphalt Surfaces	5,000	Acre	5,000	0.00	0.00	—	—	Agriculture/Open Space

Mobile Home Park	893	Dwelling Unit	112	1,160,900	0.00	—	2,661	—
Apartments High Rise	95,136	Dwelling Unit	1,534	91,330,560	0.00	—	283,505	Multi-family Housing
Retirement Community	1,079	Dwelling Unit	216	1,143,740	0.00	—	3,215	Senior Housing
Single Family Housing	30,000	Dwelling Unit	9,740	58,500,000	351,385,710	—	89,400	—
Single Family Housing	5,186	Dwelling Unit	1,684	10,112,700	60,742,876	—	15,454	—
Automobile Care Center	635	1000sqft	14.6	635,000	0.00	—	—	—
Day-Care Center	220	1000sqft	5.05	220,000	0.00	—	—	Childcare Center
Place of Worship	1,617	1000sqft	37.1	1,617,000	0.00	—	—	Church/Synagogue
University/College (4yr)	5,229	Student	22.1	961,077	0.00	0.00	—	—
Regional Shopping Center	8,734	1000sqft	201	8,734,000	0.00	—	—	Commercial
General Office Building	1,499	1000sqft	34.4	1,499,000	0.00	—	—	—
Government Office Building	1,357	1000sqft	31.2	1,357,000	0.00	—	—	—
Hospital	6,170	1000sqft	142	6,170,000	0.00	—	—	—
Hotel	504	Room	16.8	731,808	0.00	—	—	—
Junior High School	3,640	1000sqft	83.6	3,640,000	0.00	0.00	—	K-12 TSF
Research & Development	78,047	1000sqft	1,792	78,047,000	0.00	—	—	Office/R&D
City Park	51.0	Acre	51.0	0.00	0.00	0.00	—	Park and Recreation
Regional Shopping Center	1,894	1000sqft	43.5	1,894,000	0.00	—	—	Retail TSF
Other Asphalt Surfaces	23.0	1000sqft	0.53	0.00	0.00	—	—	Transportation TSF

Other Asphalt Surfaces	89.0	1000sqft	2.04	0.00	0.00	—	—	Utilities
Unrefrigerated Warehouse-No Rail	28,261	1000sqft	649	28,261,000	0.00	—	—	Warehouse/Industrial /Manufacturing

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3,558	9,875	5,483	49,290	143	345	14,439	14,784	340	3,663	4,002	225,371	18,861,898	19,087,269	23,510	596	139,095	19,991,808
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1,806	8,246	5,524	31,455	137	332	14,439	14,771	329	3,663	3,992	225,371	18,322,642	18,548,012	23,504	609	136,126	19,453,286
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2,685	9,181	3,507	39,410	120	174	13,554	13,728	169	3,439	3,608	225,371	15,311,287	15,536,658	23,445	592	137,298	16,436,369
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	490	1,676	640	7,192	22.0	31.7	2,474	2,505	30.9	628	658	37,313	2,534,958	2,572,271	3,882	97.9	22,731	2,721,228

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1,408	1,068	1,681	34,000	119	38.0	14,439	14,477	35.6	3,663	3,698	—	12,125,097	12,125,097	247	312	3,048	12,227,173
Area	1,981	8,723	2,313	14,295	14.7	191	—	191	188	—	188	0.00	2,829,558	2,829,558	54.3	5.62	—	2,832,589
Energy	168	84.1	1,490	995	9.17	116	—	116	116	—	116	—	3,628,645	3,628,645	390	31.1	—	3,647,660
Water	—	—	—	—	—	—	—	—	—	—	—	100,011	278,598	378,609	10,290	248	—	709,747
Waste	—	—	—	—	—	—	—	—	—	—	—	125,360	0.00	125,360	12,529	0.00	—	438,592
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	136,047	136,047
Total	3,558	9,875	5,483	49,290	143	345	14,439	14,784	340	3,663	4,002	225,371	18,861,898	19,087,269	23,510	596	139,095	19,991,808
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1,381	1,047	1,840	29,527	114	38.0	14,439	14,477	35.6	3,663	3,698	—	11,629,831	11,629,831	242	325	79.0	11,732,799
Area	257	7,115	2,195	934	14.0	177	—	177	177	—	177	0.00	2,785,567	2,785,567	52.5	5.25	—	2,788,442
Energy	168	84.1	1,490	995	9.17	116	—	116	116	—	116	—	3,628,645	3,628,645	390	31.1	—	3,647,660
Water	—	—	—	—	—	—	—	—	—	—	—	100,011	278,598	378,609	10,290	248	—	709,747
Waste	—	—	—	—	—	—	—	—	—	—	—	125,360	0.00	125,360	12,529	0.00	—	438,592
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	136,047	136,047
Total	1,806	8,246	5,524	31,455	137	332	14,439	14,771	329	3,663	3,992	225,371	18,322,642	18,548,012	23,504	609	136,126	19,453,286

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1,318	1,000	1,787	29,200	110	36.2	13,554	13,590	33.8	3,439	3,473	—	11,183,121	11,183,121	231	312	1,251	11,283,096
Area	1,199	8,097	231	9,216	1.42	21.5	—	21.5	19.2	—	19.2	0.00	220,923	220,923	4.85	0.61	—	221,227
Energy	168	84.1	1,490	995	9.17	116	—	116	116	—	116	—	3,628,645	3,628,645	390	31.1	—	3,647,660
Water	—	—	—	—	—	—	—	—	—	—	—	100,011	278,598	378,609	10,290	248	—	709,747
Waste	—	—	—	—	—	—	—	—	—	—	—	125,360	0.00	125,360	12,529	0.00	—	438,592
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	136,047	136,047
Total	2,685	9,181	3,507	39,410	120	174	13,554	13,728	169	3,439	3,608	225,371	15,311,287	15,536,658	23,445	592	137,298	16,436,369
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	241	182	326	5,329	20.0	6.60	2,474	2,480	6.17	628	634	—	1,851,493	1,851,493	38.2	51.6	207	1,868,045
Area	219	1,478	42.2	1,682	0.26	3.93	—	3.93	3.51	—	3.51	0.00	36,576	36,576	0.80	0.10	—	36,627
Energy	30.7	15.3	272	182	1.67	21.2	—	21.2	21.2	—	21.2	—	600,764	600,764	64.5	5.15	—	603,912
Water	—	—	—	—	—	—	—	—	—	—	—	16,558	46,125	62,683	1,704	41.0	—	117,507
Waste	—	—	—	—	—	—	—	—	—	—	—	20,755	0.00	20,755	2,074	0.00	—	72,614
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22,524	22,524
Total	490	1,676	640	7,192	22.0	31.7	2,474	2,505	30.9	628	658	37,313	2,534,958	2,572,271	3,882	97.9	22,731	2,721,228

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	—	3,058	3,058	0.39	0.05	—	3,082
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	249,180	249,180	31.5	3.82	—	251,107
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	2,957	2,957	0.37	0.05	—	2,979
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	173,344	173,344	21.9	2.66	—	174,684
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	4,352	4,352	0.55	0.07	—	4,386
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	983	983	0.12	0.02	—	991
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	11,083	11,083	1.40	0.17	—	11,168

University/College	—	—	—	—	—	—	—	—	—	—	—	—	7,692	7,692	0.97	0.12	—	7,751
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	74,579	74,579	9.44	1.14	—	75,156
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	19,086	19,086	2.42	0.29	—	19,233
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	17,278	17,278	2.19	0.27	—	17,411
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	128,881	128,881	16.3	1.98	—	129,878
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	7,317	7,317	0.93	0.11	—	7,373
Junior High School	—	—	—	—	—	—	—	—	—	—	—	—	16,266	16,266	2.06	0.25	—	16,392
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	993,724	993,724	126	15.2	—	1,001,410
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	94,507	94,507	12.0	1.45	—	95,237
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,804,286	1,804,286	228	27.7	—	1,818,241
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	—	3,058	3,058	0.39	0.05	—	3,082
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	249,180	249,180	31.5	3.82	—	251,107
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	2,957	2,957	0.37	0.05	—	2,979
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	173,344	173,344	21.9	2.66	—	174,684
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	4,352	4,352	0.55	0.07	—	4,386
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	983	983	0.12	0.02	—	991
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	11,083	11,083	1.40	0.17	—	11,168
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	7,692	7,692	0.97	0.12	—	7,751
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	74,579	74,579	9.44	1.14	—	75,156
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	19,086	19,086	2.42	0.29	—	19,233

Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	17,278	17,278	2.19	0.27	—	17,411
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	128,881	128,881	16.3	1.98	—	129,878
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	7,317	7,317	0.93	0.11	—	7,373
Junior High School	—	—	—	—	—	—	—	—	—	—	—	—	16,266	16,266	2.06	0.25	—	16,392
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	993,724	993,724	126	15.2	—	1,001,410
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	94,507	94,507	12.0	1.45	—	95,237
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,804,286	1,804,286	228	27.7	—	1,818,241
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	—	506	506	0.06	0.01	—	510
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	41,255	41,255	5.22	0.63	—	41,574

Retirement Commun	—	—	—	—	—	—	—	—	—	—	—	—	489	489	0.06	0.01	—	493
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	28,699	28,699	3.63	0.44	—	28,921
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	721	721	0.09	0.01	—	726
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	163	163	0.02	< 0.005	—	164
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	1,835	1,835	0.23	0.03	—	1,849
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	1,273	1,273	0.16	0.02	—	1,283
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	12,347	12,347	1.56	0.19	—	12,443
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	3,160	3,160	0.40	0.05	—	3,184
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	2,861	2,861	0.36	0.04	—	2,883
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	21,338	21,338	2.70	0.33	—	21,503
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,211	1,211	0.15	0.02	—	1,221
Junior High School	—	—	—	—	—	—	—	—	—	—	—	—	2,693	2,693	0.34	0.04	—	2,714

Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	164,522	164,522	20.8	2.52	—	165,795
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	15,647	15,647	1.98	0.24	—	15,768
Total	—	—	—	—	—	—	—	—	—	—	—	—	298,720	298,720	37.8	4.58	—	301,030

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	0.81	0.41	6.94	2.95	0.04	0.56	—	0.56	0.56	—	0.56	—	8,809	8,809	0.78	0.02	—	8,833
Apartments High Rise	31.2	15.6	267	114	1.70	21.6	—	21.6	21.6	—	21.6	—	338,644	338,644	30.0	0.64	—	339,583
Retirement Community	0.52	0.26	4.44	1.89	0.03	0.36	—	0.36	0.36	—	0.36	—	5,639	5,639	0.50	0.01	—	5,654

Single Family Housing	39.9	19.9	341	145	2.17	27.5	—	27.5	27.5	—	27.5	—	432,292	432,292	38.3	0.81	—	433,491
Automobile Care Center	0.80	0.40	7.30	6.13	0.04	0.55	—	0.55	0.55	—	0.55	—	8,711	8,711	0.77	0.02	—	8,735
Day-Care Center	0.14	0.07	1.24	1.04	0.01	0.09	—	0.09	0.09	—	0.09	—	1,479	1,479	0.13	< 0.005	—	1,483
Place of Worship	2.04	1.02	18.6	15.6	0.11	1.41	—	1.41	1.41	—	1.41	—	22,181	22,181	1.96	0.04	—	22,243
University/College (4yr)	1.41	0.71	12.9	10.8	0.08	0.98	—	0.98	0.98	—	0.98	—	15,343	15,343	1.36	0.03	—	15,385
Regional Shopping Center	1.88	0.94	17.1	14.4	0.10	1.30	—	1.30	1.30	—	1.30	—	20,392	20,392	1.80	0.04	—	20,449
General Office Building	1.12	0.56	10.2	8.57	0.06	0.78	—	0.78	0.78	—	0.78	—	12,177	12,177	1.08	0.02	—	12,210
Government Office Building	1.02	0.51	9.24	7.76	0.06	0.70	—	0.70	0.70	—	0.70	—	11,023	11,023	0.98	0.02	—	11,054
Hospital	9.94	4.97	90.4	75.9	0.54	6.87	—	6.87	6.87	—	6.87	—	107,846	107,846	9.54	0.20	—	108,145
Hotel	0.62	0.31	5.68	4.77	0.03	0.43	—	0.43	0.43	—	0.43	—	6,771	6,771	0.60	0.01	—	6,790
Junior High School	2.26	1.13	20.5	17.2	0.12	1.56	—	1.56	1.56	—	1.56	—	24,474	24,474	2.17	0.05	—	24,542
Research & Development	58.4	29.2	531	446	3.19	40.4	—	40.4	40.4	—	40.4	—	633,989	633,989	56.1	1.19	—	635,748
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	16.1	8.05	146	123	0.88	11.1	—	11.1	11.1	—	11.1	—	174,589	174,589	15.5	0.33	—	175,073
Total	168	84.1	1,490	995	9.17	116	—	116	116	—	116	—	1,824,359	1,824,359	161	3.44	—	1,829,419
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	0.81	0.41	6.94	2.95	0.04	0.56	—	0.56	0.56	—	0.56	—	8,809	8,809	0.78	0.02	—	8,833
Apartments High Rise	31.2	15.6	267	114	1.70	21.6	—	21.6	21.6	—	21.6	—	338,644	338,644	30.0	0.64	—	339,583
Retirement Community	0.52	0.26	4.44	1.89	0.03	0.36	—	0.36	0.36	—	0.36	—	5,639	5,639	0.50	0.01	—	5,654
Single Family Housing	39.9	19.9	341	145	2.17	27.5	—	27.5	27.5	—	27.5	—	432,292	432,292	38.3	0.81	—	433,491
Automobile Care Center	0.80	0.40	7.30	6.13	0.04	0.55	—	0.55	0.55	—	0.55	—	8,711	8,711	0.77	0.02	—	8,735
Day-Care Center	0.14	0.07	1.24	1.04	0.01	0.09	—	0.09	0.09	—	0.09	—	1,479	1,479	0.13	< 0.005	—	1,483

Place of Worship	2.04	1.02	18.6	15.6	0.11	1.41	—	1.41	1.41	—	1.41	—	22,181	22,181	1.96	0.04	—	22,243
University/College (4yr)	1.41	0.71	12.9	10.8	0.08	0.98	—	0.98	0.98	—	0.98	—	15,343	15,343	1.36	0.03	—	15,385
Regional Shopping Center	1.88	0.94	17.1	14.4	0.10	1.30	—	1.30	1.30	—	1.30	—	20,392	20,392	1.80	0.04	—	20,449
General Office Building	1.12	0.56	10.2	8.57	0.06	0.78	—	0.78	0.78	—	0.78	—	12,177	12,177	1.08	0.02	—	12,210
Government Office Building	1.02	0.51	9.24	7.76	0.06	0.70	—	0.70	0.70	—	0.70	—	11,023	11,023	0.98	0.02	—	11,054
Hospital	9.94	4.97	90.4	75.9	0.54	6.87	—	6.87	6.87	—	6.87	—	107,846	107,846	9.54	0.20	—	108,145
Hotel	0.62	0.31	5.68	4.77	0.03	0.43	—	0.43	0.43	—	0.43	—	6,771	6,771	0.60	0.01	—	6,790
Junior High School	2.26	1.13	20.5	17.2	0.12	1.56	—	1.56	1.56	—	1.56	—	24,474	24,474	2.17	0.05	—	24,542
Research & Development	58.4	29.2	531	446	3.19	40.4	—	40.4	40.4	—	40.4	—	633,989	633,989	56.1	1.19	—	635,748
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	16.1	8.05	146	123	0.88	11.1	—	11.1	11.1	—	11.1	—	174,589	174,589	15.5	0.33	—	175,073
Total	168	84.1	1,490	995	9.17	116	—	116	116	—	116	—	1,824,359	1,824,359	161	3.44	—	1,829,419
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	0.15	0.07	1.27	0.54	0.01	0.10	—	0.10	0.10	—	0.10	—	1,458	1,458	0.13	< 0.005	—	1,462
Apartments High Rise	5.70	2.85	48.7	20.7	0.31	3.94	—	3.94	3.94	—	3.94	—	56,066	56,066	4.96	0.11	—	56,222
Retirement Community	0.09	0.05	0.81	0.34	0.01	0.07	—	0.07	0.07	—	0.07	—	934	934	0.08	< 0.005	—	936
Single Family Housing	7.27	3.64	62.2	26.4	0.40	5.03	—	5.03	5.03	—	5.03	—	71,571	71,571	6.33	0.13	—	71,769
Automobile Care Center	0.15	0.07	1.33	1.12	0.01	0.10	—	0.10	0.10	—	0.10	—	1,442	1,442	0.13	< 0.005	—	1,446
Day-Care Center	0.02	0.01	0.23	0.19	< 0.005	0.02	—	0.02	0.02	—	0.02	—	245	245	0.02	< 0.005	—	246
Place of Worship	0.37	0.19	3.39	2.85	0.02	0.26	—	0.26	0.26	—	0.26	—	3,672	3,672	0.32	0.01	—	3,683
University/College (4yr)	0.26	0.13	2.35	1.97	0.01	0.18	—	0.18	0.18	—	0.18	—	2,540	2,540	0.22	< 0.005	—	2,547
Regional Shopping Center	0.34	0.17	3.12	2.62	0.02	0.24	—	0.24	0.24	—	0.24	—	3,376	3,376	0.30	0.01	—	3,386
General Office Building	0.20	0.10	1.86	1.56	0.01	0.14	—	0.14	0.14	—	0.14	—	2,016	2,016	0.18	< 0.005	—	2,022

Government Office Building	0.19	0.09	1.69	1.42	0.01	0.13	—	0.13	0.13	—	0.13	—	1,825	1,825	0.16	< 0.005	—	1,830
Hospital	1.81	0.91	16.5	13.9	0.10	1.25	—	1.25	1.25	—	1.25	—	17,855	17,855	1.58	0.03	—	17,905
Hotel	0.11	0.06	1.04	0.87	0.01	0.08	—	0.08	0.08	—	0.08	—	1,121	1,121	0.10	< 0.005	—	1,124
Junior High School	0.41	0.21	3.74	3.14	0.02	0.28	—	0.28	0.28	—	0.28	—	4,052	4,052	0.36	0.01	—	4,063
Research & Development	10.7	5.33	97.0	81.5	0.58	7.37	—	7.37	7.37	—	7.37	—	104,964	104,964	9.29	0.20	—	105,255
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	2.94	1.47	26.7	22.4	0.16	2.03	—	2.03	2.03	—	2.03	—	28,905	28,905	2.56	0.05	—	28,985
Total	30.7	15.3	272	182	1.67	21.2	—	21.2	21.2	—	21.2	—	302,043	302,043	26.7	0.57	—	302,881

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	257	128	2,195	934	14.0	177	—	177	177	—	177	0.00	2,785,567	2,785,567	52.5	5.25	—	2,788,442

Consum Products	—	6,352	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	635	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1,725	1,608	118	13,361	0.67	13.7	—	13.7	10.4	—	10.4	—	43,991	43,991	1.84	0.37	—	44,148
Total	1,981	8,723	2,313	14,295	14.7	191	—	191	188	—	188	0.00	2,829,558	2,829,558	54.3	5.62	—	2,832,589
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	257	128	2,195	934	14.0	177	—	177	177	—	177	0.00	2,785,567	2,785,567	52.5	5.25	—	2,788,442
Consumer Products	—	6,352	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	635	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	257	7,115	2,195	934	14.0	177	—	177	177	—	177	0.00	2,785,567	2,785,567	52.5	5.25	—	2,788,442
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	3.21	1.61	27.4	11.7	0.18	2.22	—	2.22	2.22	—	2.22	0.00	31,588	31,588	0.59	0.06	—	31,620
Consumer Products	—	1,159	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	116	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	216	201	14.8	1,670	0.08	1.71	—	1.71	1.29	—	1.29	—	4,989	4,989	0.21	0.04	—	5,006

Total	219	1,478	42.2	1,682	0.26	3.93	—	3.93	3.51	—	3.51	0.00	36,576	36,576	0.80	0.10	—	36,627

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	64.2	163	227	6.61	0.16	—	440
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	6,841	17,364	24,205	704	16.9	—	46,843
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	77.6	197	275	7.98	0.19	—	531
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	2,530	31,175	33,705	263	6.64	—	42,269
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	114	291	405	11.8	0.28	—	784
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	18.1	45.9	64.0	1.86	0.04	—	124

Place of Worship	—	—	—	—	—	—	—	—	—	—	—	97.0	246	343	9.97	0.24	—	664
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	21.5	54.5	75.9	2.21	0.05	—	147
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	1,509	3,829	5,337	155	3.73	—	10,329
General Office Building	—	—	—	—	—	—	—	—	—	—	—	511	1,296	1,806	52.5	1.26	—	3,496
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	517	1,311	1,828	53.1	1.28	—	3,537
Hospital	—	—	—	—	—	—	—	—	—	—	—	1,484	3,766	5,249	153	3.67	—	10,158
Hotel	—	—	—	—	—	—	—	—	—	—	—	24.5	62.2	86.7	2.52	0.06	—	168
Junior High School	—	—	—	—	—	—	—	—	—	—	—	144	365	509	14.8	0.36	—	985
Research & Development	—	—	—	—	—	—	—	—	—	—	—	73,536	186,648	260,184	7,564	182	—	503,522
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	12,523	31,786	44,310	1,288	31.0	—	85,751
Total	—	—	—	—	—	—	—	—	—	—	—	100,011	278,598	378,609	10,290	248	—	709,747

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	64.2	163	227	6.61	0.16	—	440
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	6,841	17,364	24,205	704	16.9	—	46,843
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	77.6	197	275	7.98	0.19	—	531
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	2,530	31,175	33,705	263	6.64	—	42,269
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	114	291	405	11.8	0.28	—	784
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	18.1	45.9	64.0	1.86	0.04	—	124
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	97.0	246	343	9.97	0.24	—	664
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	21.5	54.5	75.9	2.21	0.05	—	147
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	1,509	3,829	5,337	155	3.73	—	10,329
General Office Building	—	—	—	—	—	—	—	—	—	—	—	511	1,296	1,806	52.5	1.26	—	3,496

Governm Office Building	—	—	—	—	—	—	—	—	—	—	—	517	1,311	1,828	53.1	1.28	—	3,537
Hospital	—	—	—	—	—	—	—	—	—	—	—	1,484	3,766	5,249	153	3.67	—	10,158
Hotel	—	—	—	—	—	—	—	—	—	—	—	24.5	62.2	86.7	2.52	0.06	—	168
Junior High School	—	—	—	—	—	—	—	—	—	—	—	144	365	509	14.8	0.36	—	985
Research & Development	—	—	—	—	—	—	—	—	—	—	—	73,536	186,648	260,184	7,564	182	—	503,522
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	12,523	31,786	44,310	1,288	31.0	—	85,751
Total	—	—	—	—	—	—	—	—	—	—	—	100,011	278,598	378,609	10,290	248	—	709,747
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	10.6	27.0	37.6	1.09	0.03	—	72.8
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	1,133	2,875	4,007	117	2.80	—	7,755
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	12.8	32.6	45.5	1.32	0.03	—	88.0

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	419	5,161	5,580	43.6	1.10	—	6,998
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	19.0	48.1	67.1	1.95	0.05	—	130
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	2.99	7.60	10.6	0.31	0.01	—	20.5
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	16.1	40.7	56.8	1.65	0.04	—	110
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	3.55	9.02	12.6	0.37	0.01	—	24.3
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	250	634	884	25.7	0.62	—	1,710
General Office Building	—	—	—	—	—	—	—	—	—	—	—	84.5	215	299	8.69	0.21	—	579
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	85.5	217	303	8.80	0.21	—	586
Hospital	—	—	—	—	—	—	—	—	—	—	—	246	623	869	25.3	0.61	—	1,682
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.06	10.3	14.4	0.42	0.01	—	27.8
Junior High School	—	—	—	—	—	—	—	—	—	—	—	23.8	60.4	84.3	2.45	0.06	—	163
Research & Development	—	—	—	—	—	—	—	—	—	—	—	12,175	30,902	43,076	1,252	30.1	—	83,364
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	2,073	5,263	7,336	213	5.13	—	14,197
Total	—	—	—	—	—	—	—	—	—	—	—	16,558	46,125	62,683	1,704	41.0	—	117,507

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	356	0.00	356	35.6	0.00	—	1,245
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	37,914	0.00	37,914	3,789	0.00	—	132,649
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	1,582	0.00	1,582	158	0.00	—	5,535
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	14,991	0.00	14,991	1,498	0.00	—	52,449

Automob Care Center	—	—	—	—	—	—	—	—	—	—	—	1,307	0.00	1,307	131	0.00	—	4,574
Day-Car e Center	—	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	4,967	0.00	4,967	496	0.00	—	17,379
Universit y/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	514	0.00	514	51.4	0.00	—	1,799
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	6,014	0.00	6,014	601	0.00	—	21,042
General Office Building	—	—	—	—	—	—	—	—	—	—	—	751	0.00	751	75.1	0.00	—	2,629
Governm ent Office Building	—	—	—	—	—	—	—	—	—	—	—	680	0.00	680	68.0	0.00	—	2,380
Hospital	—	—	—	—	—	—	—	—	—	—	—	35,913	0.00	35,913	3,589	0.00	—	125,646
Hotel	—	—	—	—	—	—	—	—	—	—	—	149	0.00	149	14.9	0.00	—	520
Junior High School	—	—	—	—	—	—	—	—	—	—	—	2,550	0.00	2,550	255	0.00	—	8,922
Researc h & Development	—	—	—	—	—	—	—	—	—	—	—	3,196	0.00	3,196	319	0.00	—	11,183
City Park	—	—	—	—	—	—	—	—	—	—	—	2.36	0.00	2.36	0.24	0.00	—	8.27
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Unrefrigerated Warehou Rail	—	—	—	—	—	—	—	—	—	—	—	14,317	0.00	14,317	1,431	0.00	—	50,091
Total	—	—	—	—	—	—	—	—	—	—	—	125,360	0.00	125,360	12,529	0.00	—	438,592
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	356	0.00	356	35.6	0.00	—	1,245
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	37,914	0.00	37,914	3,789	0.00	—	132,649
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	1,582	0.00	1,582	158	0.00	—	5,535
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	14,991	0.00	14,991	1,498	0.00	—	52,449
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	1,307	0.00	1,307	131	0.00	—	4,574
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	4,967	0.00	4,967	496	0.00	—	17,379
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	514	0.00	514	51.4	0.00	—	1,799

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	6,014	0.00	6,014	601	0.00	—	21,042
General Office Building	—	—	—	—	—	—	—	—	—	—	—	751	0.00	751	75.1	0.00	—	2,629
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	680	0.00	680	68.0	0.00	—	2,380
Hospital	—	—	—	—	—	—	—	—	—	—	—	35,913	0.00	35,913	3,589	0.00	—	125,646
Hotel	—	—	—	—	—	—	—	—	—	—	—	149	0.00	149	14.9	0.00	—	520
Junior High School	—	—	—	—	—	—	—	—	—	—	—	2,550	0.00	2,550	255	0.00	—	8,922
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,196	0.00	3,196	319	0.00	—	11,183
City Park	—	—	—	—	—	—	—	—	—	—	—	2.36	0.00	2.36	0.24	0.00	—	8.27
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	14,317	0.00	14,317	1,431	0.00	—	50,091
Total	—	—	—	—	—	—	—	—	—	—	—	125,360	0.00	125,360	12,529	0.00	—	438,592
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	58.9	0.00	58.9	5.89	0.00	—	206

Apartment High Rise	—	—	—	—	—	—	—	—	—	—	—	6,277	0.00	6,277	627	0.00	—	21,962
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	916
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	2,482	0.00	2,482	248	0.00	—	8,683
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	216	0.00	216	21.6	0.00	—	757
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	25.5	0.00	25.5	2.55	0.00	—	89.3
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	822	0.00	822	82.2	0.00	—	2,877
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	85.1	0.00	85.1	8.51	0.00	—	298
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	996	0.00	996	99.5	0.00	—	3,484
General Office Building	—	—	—	—	—	—	—	—	—	—	—	124	0.00	124	12.4	0.00	—	435
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	113	0.00	113	11.3	0.00	—	394
Hospital	—	—	—	—	—	—	—	—	—	—	—	5,946	0.00	5,946	594	0.00	—	20,802
Hotel	—	—	—	—	—	—	—	—	—	—	—	24.6	0.00	24.6	2.46	0.00	—	86.1

Junior High School	—	—	—	—	—	—	—	—	—	—	—	422	0.00	422	42.2	0.00	—	1,477
Research & Development	—	—	—	—	—	—	—	—	—	—	—	529	0.00	529	52.9	0.00	—	1,852
City Park	—	—	—	—	—	—	—	—	—	—	—	0.39	0.00	0.39	0.04	0.00	—	1.37
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	2,370	0.00	2,370	237	0.00	—	8,293
Total	—	—	—	—	—	—	—	—	—	—	—	20,755	0.00	20,755	2,074	0.00	—	72,614

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.31	8.31
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	654	654

Retirement Commun	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.5	14.5
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	491	491
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	131,648	131,648
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.85	0.85
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.25	6.25
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.71	3.71
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51.0	51.0
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.65	3.65
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.30	3.30
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.67	9.67
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,144	1,144
Junior High School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.1	14.1

Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,994	1,994
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	136,047	136,047
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.31	8.31
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	654	654
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.5	14.5
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	491	491
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	131,648	131,648
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.85	0.85
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.25	6.25
University/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.71	3.71

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51.0	51.0
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.65	3.65
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.30	3.30
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.67	9.67
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,144	1,144
Junior High School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.1	14.1
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,994	1,994
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	136,047	136,047
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.38	1.38
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	108	108
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.40	2.40
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	81.4	81.4

Automob Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,796	21,796
Day-Car e Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.03	1.03
Universit y/College (4yr)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.61	0.61
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.45	8.45
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.60	0.60
Governm ent Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.60	1.60
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	189	189
Junior High School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.33	2.33
Researc h & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	330	330
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22,524	22,524

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	20,437,228	16,909,651	16,909,651	7,091,712,333

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Mobile Home Park	—
Wood Fireplaces	0
Gas Fireplaces	893
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Apartments High Rise	—
Wood Fireplaces	0
Gas Fireplaces	95136
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Retirement Community	—

Wood Fireplaces	0
Gas Fireplaces	1079
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	30000
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Wood Fireplaces	0
Gas Fireplaces	5186
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
328551997.5	109,517,333	200,650,328	66,883,443	13,074,720

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Other Non-Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00
Mobile Home Park	4,280,332	261	0.0330	0.0040	27,486,431
Apartments High Rise	348,752,793	261	0.0330	0.0040	1,056,660,606
Retirement Community	4,138,014	261	0.0330	0.0040	17,593,824
Single Family Housing	206,854,353	261	0.0330	0.0040	1,150,060,385
Single Family Housing	35,758,222	261	0.0330	0.0040	198,807,105
Automobile Care Center	6,091,387	261	0.0330	0.0040	27,179,233
Day-Care Center	1,375,956	261	0.0330	0.0040	4,615,576
Place of Worship	15,511,454	261	0.0330	0.0040	69,210,740
University/College (4yr)	10,765,681	261	0.0330	0.0040	47,874,017
Regional Shopping Center	85,779,814	261	0.0330	0.0040	52,289,970
General Office Building	26,712,609	261	0.0330	0.0040	37,994,355
Government Office Building	24,182,129	261	0.0330	0.0040	34,395,156
Hospital	180,382,780	261	0.0330	0.0040	336,508,111
Hotel	10,240,704	261	0.0330	0.0040	21,128,542
Junior High School	22,765,819	261	0.0330	0.0040	76,366,803
Research & Development	1,390,819,885	261	0.0330	0.0040	1,978,215,744
City Park	0.00	261	0.0330	0.0040	0.00
Regional Shopping Center	18,601,668	261	0.0330	0.0040	11,339,272
Other Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00
Unrefrigerated Warehouse-No Rail	132,271,738	261	0.0330	0.0040	544,763,167

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Other Non-Asphalt Surfaces	0.00	0.00
Mobile Home Park	33,510,405	0.00
Apartments High Rise	3,570,040,238	0.00
Retirement Community	40,490,176	0.00
Single Family Housing	1,125,769,500	5,566,109,604
Single Family Housing	194,608,021	962,194,807
Automobile Care Center	59,741,503	0.00
Day-Care Center	9,435,705	0.00
Place of Worship	50,594,165	0.00
University/College (4yr)	11,195,812	0.00
Regional Shopping Center	646,949,403	0.00
General Office Building	266,422,888	0.00
Government Office Building	269,581,194	0.00
Hospital	774,214,917	0.00
Hotel	12,784,852	0.00
Junior High School	75,060,456	0.00
Research & Development	38,375,237,497	0.00
City Park	0.00	0.00
Regional Shopping Center	140,293,356	0.00
Other Asphalt Surfaces	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
Unrefrigerated Warehouse-No Rail	6,535,356,250	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Non-Asphalt Surfaces	0.00	—
Mobile Home Park	660	—
Apartments High Rise	70,350	—
Retirement Community	2,936	—
Single Family Housing	23,716	—
Single Family Housing	4,100	—
Automobile Care Center	2,426	—
Day-Care Center	286	—
Place of Worship	9,217	—
University/College (4yr)	954	—
Regional Shopping Center	9,171	—
General Office Building	1,394	—
Government Office Building	1,262	—
Hospital	66,636	—
Hotel	276	—
Junior High School	4,732	—
Research & Development	5,931	—
City Park	4.39	—
Regional Shopping Center	1,989	—
Other Asphalt Surfaces	0.00	—
Other Asphalt Surfaces	0.00	—
Unrefrigerated Warehouse-No Rail	26,565	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Mobile Home Park	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Mobile Home Park	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments High Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments High Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Retirement Community	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Retirement Community	Household refrigerators and/or freezers	R-134a	1,430	0.22	0.60	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Automobile Care Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Automobile Care Center	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0

Day-Care Center	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Day-Care Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Day-Care Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Day-Care Center	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Place of Worship	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Place of Worship	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Place of Worship	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Place of Worship	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
University/College (4yr)	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
University/College (4yr)	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
University/College (4yr)	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
University/College (4yr)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00

General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Government Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Government Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Hospital	Chillers	R-134a	1,430	< 0.005	2.00	2.00	23.0
Hospital	Household refrigerators and/or freezers	R-134a	1,430	< 0.005	0.60	0.00	1.00
Hospital	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Hospital	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Junior High School	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Junior High School	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Junior High School	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Junior High School	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.03	annual days of extreme heat
Extreme Precipitation	3.50	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	1.31	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2

Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	58.2
AQ-PM	68.7
AQ-DPM	84.2
Drinking Water	53.2
Lead Risk Housing	28.7
Pesticides	11.8
Toxic Releases	91.4
Traffic	88.9
Effect Indicators	—
CleanUp Sites	97.3
Groundwater	99.0

Haz Waste Facilities/Generators	98.4
Impaired Water Bodies	83.0
Solid Waste	97.7
Sensitive Population	—
Asthma	17.0
Cardio-vascular	20.8
Low Birth Weights	54.8
Socioeconomic Factor Indicators	—
Education	49.2
Housing	39.2
Linguistic	59.4
Poverty	55.5
Unemployment	5.57

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	47.45284229
Employed	76.27357885
Median HI	69.01065058
Education	—
Bachelor's or higher	70.42217375
High school enrollment	100
Preschool enrollment	16.21968433
Transportation	—
Auto Access	57.21801617

Active commuting	69.0619787
Social	—
2-parent households	42.17887848
Voting	31.99024766
Neighborhood	—
Alcohol availability	44.80944437
Park access	28.53843193
Retail density	94.63621199
Supermarket access	58.28307455
Tree canopy	29.41100988
Housing	—
Homeownership	19.54317978
Housing habitability	30.20659566
Low-inc homeowner severe housing cost burden	97.88271526
Low-inc renter severe housing cost burden	75.33684075
Uncrowded housing	22.40472219
Health Outcomes	—
Insured adults	50.3143847
Arthritis	98.6
Asthma ER Admissions	82.6
High Blood Pressure	98.8
Cancer (excluding skin)	96.0
Asthma	65.7
Coronary Heart Disease	98.7
Chronic Obstructive Pulmonary Disease	94.6
Diagnosed Diabetes	98.6
Life Expectancy at Birth	99.4

Cognitively Disabled	52.2
Physically Disabled	81.6
Heart Attack ER Admissions	76.4
Mental Health Not Good	58.7
Chronic Kidney Disease	99.0
Obesity	94.5
Pedestrian Injuries	72.5
Physical Health Not Good	93.2
Stroke	98.4
Health Risk Behaviors	—
Binge Drinking	4.3
Current Smoker	42.3
No Leisure Time for Physical Activity	69.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	25.4
Elderly	82.5
English Speaking	49.5
Foreign-born	80.9
Outdoor Workers	61.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	18.1
Traffic Density	92.8
Traffic Access	65.3
Other Indices	—
Hardship	52.6

Other Decision Support	—
2016 Voting	59.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64.0
Healthy Places Index Score for Project Location (b)	56.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Operations: Hearths	SCAQMD Rule 445 no wood burning devices. Wood burning devices added to gas devices.

ATTACHMENT C

CALEEMOD CONSERVATIVE/PROPOSED PROJECT SCENARIO EMISSIONS MODEL OUTPUTS

15937 - Irvine GPU Conservative Project Alternative (Operations) Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	15937 - Irvine GPU Conservative Project Alternative (Operations)
Operational Year	2045
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	19.6
Location	33.688397, -117.841364
County	Orange
City	Irvine
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6804
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Condo/Townhouse	37,345	Dwelling Unit	2,334	39,585,700	0.00	—	111,288	—

Apartments High Rise	18,050	Dwelling Unit	291	17,328,000	0.00	—	53,789	Multi-Family Housing
City Park	20.0	Acre	20.0	0.00	0.00	0.00	—	Botanical Garden
City Park	20.0	Acre	20.0	0.00	0.00	0.00	—	Veterans Memorial Garden
Library	60.0	1000sqft	1.38	60,000	0.00	—	—	—
General Office Building	7.18	1000sqft	0.16	7,180	0.00	—	—	Discovery Center
General Office Building	800	1000sqft	18.4	800,000	0.00	—	—	New Museum
City Park	65.0	Acre	65.0	0.00	0.00	0.00	—	—
High Turnover (Sit Down Restaurant)	23.0	1000sqft	0.53	23,000	0.00	—	—	Accessory Restaurant
Recreational Swimming Pool	40.4	1000sqft	0.93	40,365	0.00	—	—	Aquatic Center Pools
Arena	26.1	1000sqft	8.41	26,150	0.00	—	—	Aquatic Stadium
City Park	6.00	Acre	6.00	0.00	0.00	0.00	—	Skate Park
Racquet Club	17.6	1000sqft	0.40	17,600	0.00	—	—	Pickleball Court

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	498	1,735	1,307	5,212	13.1	100	636	737	100.0	161	261	27,145	2,262,087	2,289,232	2,814	30.1	580	2,369,127
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	202	1,454	1,285	1,816	12.7	98.9	636	735	98.8	161	260	27,145	2,231,699	2,258,844	2,813	30.6	450	2,338,748
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	301	1,594	446	3,629	7.15	30.7	597	628	30.3	151	182	27,145	1,131,389	1,158,534	2,792	28.1	501	1,237,205
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	54.9	291	81.5	662	1.30	5.60	109	115	5.53	27.6	33.2	4,494	187,314	191,809	462	4.64	83.0	204,833

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	62.0	47.1	74.1	1,498	5.25	1.68	636	638	1.57	161	163	—	534,152	534,152	10.9	13.7	134	538,649
Area	403	1,671	948	3,590	6.00	75.8	—	75.8	75.4	—	75.4	0.00	1,174,960	1,174,960	22.3	2.27	—	1,176,194
Energy	33.3	16.6	285	124	1.81	23.0	—	23.0	23.0	—	23.0	—	542,052	542,052	54.9	3.46	—	544,455
Water	—	—	—	—	—	—	—	—	—	—	—	4,303	10,923	15,226	443	10.7	—	29,466
Waste	—	—	—	—	—	—	—	—	—	—	—	22,842	0.00	22,842	2,283	0.00	—	79,916
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	446	446
Total	498	1,735	1,307	5,212	13.1	100	636	737	100.0	161	261	27,145	2,262,087	2,289,232	2,814	30.1	580	2,369,127

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	60.8	46.1	81.0	1,301	5.03	1.68	636	638	1.57	161	163	—	512,334	512,334	10.7	14.3	3.48	516,870
Area	108	1,392	919	391	5.87	74.3	—	74.3	74.3	—	74.3	0.00	1,166,391	1,166,391	22.0	2.20	—	1,167,594
Energy	33.3	16.6	285	124	1.81	23.0	—	23.0	23.0	—	23.0	—	542,052	542,052	54.9	3.46	—	544,455
Water	—	—	—	—	—	—	—	—	—	—	—	4,303	10,923	15,226	443	10.7	—	29,466
Waste	—	—	—	—	—	—	—	—	—	—	—	22,842	0.00	22,842	2,283	0.00	—	79,916
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	446	446
Total	202	1,454	1,285	1,816	12.7	98.9	636	735	98.8	161	260	27,145	2,231,699	2,258,844	2,813	30.6	450	2,338,748
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	58.1	44.1	78.7	1,286	4.84	1.59	597	599	1.49	151	153	—	492,655	492,655	10.2	13.7	55.1	497,059
Area	210	1,533	83.0	2,218	0.50	6.10	—	6.10	5.85	—	5.85	0.00	85,759	85,759	1.75	0.20	—	85,863
Energy	33.3	16.6	285	124	1.81	23.0	—	23.0	23.0	—	23.0	—	542,052	542,052	54.9	3.46	—	544,455
Water	—	—	—	—	—	—	—	—	—	—	—	4,303	10,923	15,226	443	10.7	—	29,466
Waste	—	—	—	—	—	—	—	—	—	—	—	22,842	0.00	22,842	2,283	0.00	—	79,916
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	446	446
Total	301	1,594	446	3,629	7.15	30.7	597	628	30.3	151	182	27,145	1,131,389	1,158,534	2,792	28.1	501	1,237,205
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.6	8.04	14.4	235	0.88	0.29	109	109	0.27	27.6	27.9	—	81,565	81,565	1.68	2.28	9.13	82,294
Area	38.3	280	15.2	405	0.09	1.11	—	1.11	1.07	—	1.07	0.00	14,198	14,198	0.29	0.03	—	14,216
Energy	6.07	3.03	51.9	22.7	0.33	4.19	—	4.19	4.19	—	4.19	—	89,743	89,743	9.08	0.57	—	90,141
Water	—	—	—	—	—	—	—	—	—	—	—	712	1,808	2,521	73.3	1.76	—	4,879
Waste	—	—	—	—	—	—	—	—	—	—	—	3,782	0.00	3,782	378	0.00	—	13,231
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	73.9	73.9
Total	54.9	291	81.5	662	1.30	5.60	109	115	5.53	27.6	33.2	4,494	187,314	191,809	462	4.64	83.0	204,833

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	122,531	122,531	15.5	1.88	—	123,478
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	47,276	47,276	5.98	0.73	—	47,642
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	—	411	411	0.05	0.01	—	414
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	10,277	10,277	1.30	0.16	—	10,357
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	569	569	0.07	0.01	—	573

Recreational Swimmin Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Arena	—	—	—	—	—	—	—	—	—	—	—	—	179	179	0.02	< 0.005	—	181
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	—	121	121	0.02	< 0.005	—	122
Total	—	—	—	—	—	—	—	—	—	—	—	—	181,365	181,365	22.9	2.78	—	182,767
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	122,531	122,531	15.5	1.88	—	123,478
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	47,276	47,276	5.98	0.73	—	47,642
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	—	411	411	0.05	0.01	—	414
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	10,277	10,277	1.30	0.16	—	10,357
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	569	569	0.07	0.01	—	573
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Arena	—	—	—	—	—	—	—	—	—	—	—	—	179	179	0.02	< 0.005	—	181
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	—	121	121	0.02	< 0.005	—	122
Total	—	—	—	—	—	—	—	—	—	—	—	—	181,365	181,365	22.9	2.78	—	182,767

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	20,286	20,286	2.57	0.31	—	20,443
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	7,827	7,827	0.99	0.12	—	7,888
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	—	68.1	68.1	0.01	< 0.005	—	68.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	1,702	1,702	0.22	0.03	—	1,715
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	94.2	94.2	0.01	< 0.005	—	94.9
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Arena	—	—	—	—	—	—	—	—	—	—	—	—	29.7	29.7	< 0.005	< 0.005	—	29.9
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	—	20.0	20.0	< 0.005	< 0.005	—	20.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	30,027	30,027	3.80	0.46	—	30,259

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhous	26.5	13.3	227	96.4	1.45	18.3	—	18.3	18.3	—	18.3	—	287,608	287,608	25.5	0.54	—	288,406
Apartments High Rise	5.92	2.96	50.6	21.5	0.32	4.09	—	4.09	4.09	—	4.09	—	64,250	64,250	5.69	0.12	—	64,429
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Library	0.08	0.04	0.69	0.58	< 0.005	0.05	—	0.05	0.05	—	0.05	—	823	823	0.07	< 0.005	—	825
General Office Building	0.60	0.30	5.50	4.62	0.03	0.42	—	0.42	0.42	—	0.42	—	6,557	6,557	0.58	0.01	—	6,575
High Turnover (Sit Down Restaurant)	0.08	0.04	0.71	0.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	849	849	0.08	< 0.005	—	851
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Arena	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	359	359	0.03	< 0.005	—	360
Racquet Club	0.02	0.01	0.20	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	241	241	0.02	< 0.005	—	242
Total	33.3	16.6	285	124	1.81	23.0	—	23.0	23.0	—	23.0	—	360,687	360,687	31.9	0.68	—	361,687
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	26.5	13.3	227	96.4	1.45	18.3	—	18.3	18.3	—	18.3	—	287,608	287,608	25.5	0.54	—	288,406
Apartments High Rise	5.92	2.96	50.6	21.5	0.32	4.09	—	4.09	4.09	—	4.09	—	64,250	64,250	5.69	0.12	—	64,429
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Library	0.08	0.04	0.69	0.58	< 0.005	0.05	—	0.05	0.05	—	0.05	—	823	823	0.07	< 0.005	—	825

General Office Building	0.60	0.30	5.50	4.62	0.03	0.42	—	0.42	0.42	—	0.42	—	6,557	6,557	0.58	0.01	—	6,575
High Turnover (Sit Down Restaurant)	0.08	0.04	0.71	0.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	849	849	0.08	< 0.005	—	851
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Arena	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	359	359	0.03	< 0.005	—	360
Racquet Club	0.02	0.01	0.20	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	241	241	0.02	< 0.005	—	242
Total	33.3	16.6	285	124	1.81	23.0	—	23.0	23.0	—	23.0	—	360,687	360,687	31.9	0.68	—	361,687
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	4.84	2.42	41.4	17.6	0.26	3.34	—	3.34	3.34	—	3.34	—	47,617	47,617	4.21	0.09	—	47,749
Apartments High Rise	1.08	0.54	9.24	3.93	0.06	0.75	—	0.75	0.75	—	0.75	—	10,637	10,637	0.94	0.02	—	10,667
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Library	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	136	136	0.01	< 0.005	—	137
General Office Building	0.11	0.06	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,086	1,086	0.10	< 0.005	—	1,089
High Turnover (Sit Down Restaurant)	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	141	141	0.01	< 0.005	—	141

Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Arena	0.01	< 0.005	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	59.4	59.4	0.01	< 0.005	—	59.6
Racquet Club	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.0	40.0	< 0.005	< 0.005	—	40.1
Total	6.07	3.03	51.9	22.7	0.33	4.19	—	4.19	4.19	—	4.19	—	59,716	59,716	5.28	0.11	—	59,881

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	108	53.8	919	391	5.87	74.3	—	74.3	74.3	—	74.3	0.00	1,166,391	1,166,391	22.0	2.20	—	1,167,594
Consumer Products	—	1,238	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	100.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	295	280	29.4	3,199	0.14	1.48	—	1.48	1.12	—	1.12	—	8,570	8,570	0.36	0.07	—	8,600
Total	403	1,671	948	3,590	6.00	75.8	—	75.8	75.4	—	75.4	0.00	1,174,960	1,174,960	22.3	2.27	—	1,176,194

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	108	53.8	919	391	5.87	74.3	—	74.3	74.3	—	74.3	0.00	1,166,391	1,166,391	22.0	2.20	—	1,167,594
Consumer Products	—	1,238	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	100.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	108	1,392	919	391	5.87	74.3	—	74.3	74.3	—	74.3	0.00	1,166,391	1,166,391	22.0	2.20	—	1,167,594
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.34	0.67	11.5	4.89	0.07	0.93	—	0.93	0.93	—	0.93	0.00	13,227	13,227	0.25	0.02	—	13,240
Consumer Products	—	226	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	18.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	36.9	35.0	3.67	400	0.02	0.18	—	0.18	0.14	—	0.14	—	972	972	0.04	0.01	—	975
Total	38.3	280	15.2	405	0.09	1.11	—	1.11	1.07	—	1.07	0.00	14,198	14,198	0.29	0.03	—	14,216

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2,685	6,816	9,501	276	6.65	—	18,388
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	1,298	3,294	4,592	134	3.21	—	8,887
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	3.60	9.13	12.7	0.37	0.01	—	24.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	275	698	973	28.3	0.68	—	1,882
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	13.4	34.0	47.3	1.38	0.03	—	91.6
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	4.57	11.6	16.2	0.47	0.01	—	31.3
Arena	—	—	—	—	—	—	—	—	—	—	—	21.6	54.8	76.4	2.22	0.05	—	148
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	1.99	5.06	7.06	0.21	< 0.005	—	13.7
Total	—	—	—	—	—	—	—	—	—	—	—	4,303	10,923	15,226	443	10.7	—	29,466
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2,685	6,816	9,501	276	6.65	—	18,388
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	1,298	3,294	4,592	134	3.21	—	8,887

City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	3.60	9.13	12.7	0.37	0.01	—	24.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	275	698	973	28.3	0.68	—	1,882
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	13.4	34.0	47.3	1.38	0.03	—	91.6
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	4.57	11.6	16.2	0.47	0.01	—	31.3
Arena	—	—	—	—	—	—	—	—	—	—	—	21.6	54.8	76.4	2.22	0.05	—	148
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	1.99	5.06	7.06	0.21	< 0.005	—	13.7
Total	—	—	—	—	—	—	—	—	—	—	—	4,303	10,923	15,226	443	10.7	—	29,466
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	445	1,128	1,573	45.7	1.10	—	3,044
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	215	545	760	22.1	0.53	—	1,471
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	0.60	1.51	2.11	0.06	< 0.005	—	4.08
General Office Building	—	—	—	—	—	—	—	—	—	—	—	45.5	116	161	4.68	0.11	—	312
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	2.21	5.62	7.84	0.23	0.01	—	15.2

Recreational	—	—	—	—	—	—	—	—	—	—	—	0.76	1.92	2.68	0.08	< 0.005	—	5.19
Arena	—	—	—	—	—	—	—	—	—	—	—	3.57	9.07	12.6	0.37	0.01	—	24.5
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	0.33	0.84	1.17	0.03	< 0.005	—	2.26
Total	—	—	—	—	—	—	—	—	—	—	—	712	1,808	2,521	73.3	1.76	—	4,879

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	14,883	0.00	14,883	1,488	0.00	—	52,071
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	7,193	0.00	7,193	719	0.00	—	25,167
City Park	—	—	—	—	—	—	—	—	—	—	—	5.14	0.00	5.14	0.51	0.00	—	18.0
Library	—	—	—	—	—	—	—	—	—	—	—	29.8	0.00	29.8	2.98	0.00	—	104
General Office Building	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.4	0.00	—	1,415
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	148	0.00	148	14.7	0.00	—	516

Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	124	0.00	124	12.4	0.00	—	434
Arena	—	—	—	—	—	—	—	—	—	—	—	0.39	0.00	0.39	0.04	0.00	—	1.36
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	54.1	0.00	54.1	5.40	0.00	—	189
Total	—	—	—	—	—	—	—	—	—	—	—	22,842	0.00	22,842	2,283	0.00	—	79,916
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	14,883	0.00	14,883	1,488	0.00	—	52,071
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	7,193	0.00	7,193	719	0.00	—	25,167
City Park	—	—	—	—	—	—	—	—	—	—	—	5.14	0.00	5.14	0.51	0.00	—	18.0
Library	—	—	—	—	—	—	—	—	—	—	—	29.8	0.00	29.8	2.98	0.00	—	104
General Office Building	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.4	0.00	—	1,415
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	148	0.00	148	14.7	0.00	—	516
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	124	0.00	124	12.4	0.00	—	434
Arena	—	—	—	—	—	—	—	—	—	—	—	0.39	0.00	0.39	0.04	0.00	—	1.36
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	54.1	0.00	54.1	5.40	0.00	—	189
Total	—	—	—	—	—	—	—	—	—	—	—	22,842	0.00	22,842	2,283	0.00	—	79,916

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2,464	0.00	2,464	246	0.00	—	8,621
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	1,191	0.00	1,191	119	0.00	—	4,167
City Park	—	—	—	—	—	—	—	—	—	—	—	0.85	0.00	0.85	0.09	0.00	—	2.98
Library	—	—	—	—	—	—	—	—	—	—	—	4.93	0.00	4.93	0.49	0.00	—	17.2
General Office Building	—	—	—	—	—	—	—	—	—	—	—	67.0	0.00	67.0	6.69	0.00	—	234
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	24.4	0.00	24.4	2.44	0.00	—	85.4
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	20.5	0.00	20.5	2.05	0.00	—	71.8
Arena	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.22
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	8.95	0.00	8.95	0.89	0.00	—	31.3
Total	—	—	—	—	—	—	—	—	—	—	—	3,782	0.00	3,782	378	0.00	—	13,231

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	284	284
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	124	124
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.23	0.23
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.96	1.96
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.0	36.0
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.16	0.16
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	446	446
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	284	284
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	124	124

City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.23	0.23
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.96	1.96
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.0	36.0
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.16	0.16
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	446	446
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.9	46.9
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.5	20.5
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33	0.33
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.95	5.95

Recreational	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	73.9	73.9

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	900,330	744,928	744,928	312,414,241

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	37345
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Apartments High Rise	—

Wood Fireplaces	0
Gas Fireplaces	18050
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
115250242.5	38,416,748	1,400,895	466,965	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	171,494,383	261	0.0330	0.0040	897,413,737
Apartments High Rise	66,168,306	261	0.0330	0.0040	200,478,514
City Park	0.00	261	0.0330	0.0040	0.00
City Park	0.00	261	0.0330	0.0040	0.00
Library	575,564	261	0.0330	0.0040	2,568,116
General Office Building	127,950	261	0.0330	0.0040	181,988

General Office Building	14,256,229	261	0.0330	0.0040	20,277,174
City Park	0.00	261	0.0330	0.0040	0.00
High Turnover (Sit Down Restaurant)	796,497	261	0.0330	0.0040	2,648,027
Recreational Swimming Pool	0.00	261	0.0330	0.0040	0.00
Arena	250,850	261	0.0330	0.0040	1,119,271
City Park	0.00	261	0.0330	0.0040	0.00
Racquet Club	168,832	261	0.0330	0.0040	753,314

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	1,401,395,399	0.00
Apartments High Rise	677,337,983	0.00
City Park	0.00	0.00
City Park	0.00	0.00
Library	1,877,335	0.00
General Office Building	1,276,128	0.00
General Office Building	142,186,998	0.00
City Park	0.00	0.00
High Turnover (Sit Down Restaurant)	6,981,275	0.00
Recreational Swimming Pool	2,387,313	0.00
Arena	11,264,639	0.00
City Park	0.00	0.00
Racquet Club	1,040,919	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	27,615	—
Apartments High Rise	13,347	—
City Park	1.72	—
City Park	1.72	—
Library	55.3	—
General Office Building	6.68	—
General Office Building	744	—
City Park	5.59	—
High Turnover (Sit Down Restaurant)	274	—
Recreational Swimming Pool	230	—
Arena	0.72	—
City Park	0.52	—
Racquet Club	100	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

Apartments High Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments High Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Library	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Library	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Library	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Library	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Recreational Swimming Pool	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Recreational Swimming Pool	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Arena	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Arena	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Arena	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Racquet Club	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Racquet Club	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.03	annual days of extreme heat
Extreme Precipitation	3.50	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	1.31	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A

Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	58.2
AQ-PM	68.7
AQ-DPM	84.2
Drinking Water	53.2
Lead Risk Housing	28.7
Pesticides	11.8
Toxic Releases	91.4
Traffic	88.9
Effect Indicators	—
CleanUp Sites	97.3
Groundwater	99.0
Haz Waste Facilities/Generators	98.4
Impaired Water Bodies	83.0
Solid Waste	97.7
Sensitive Population	—
Asthma	17.0
Cardio-vascular	20.8
Low Birth Weights	54.8
Socioeconomic Factor Indicators	—
Education	49.2
Housing	39.2

Linguistic	59.4
Poverty	55.5
Unemployment	5.57

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	47.45284229
Employed	76.27357885
Median HI	69.01065058
Education	—
Bachelor's or higher	70.42217375
High school enrollment	100
Preschool enrollment	16.21968433
Transportation	—
Auto Access	57.21801617
Active commuting	69.0619787
Social	—
2-parent households	42.17887848
Voting	31.99024766
Neighborhood	—
Alcohol availability	44.80944437
Park access	28.53843193
Retail density	94.63621199
Supermarket access	58.28307455
Tree canopy	29.41100988

Housing	—
Homeownership	19.54317978
Housing habitability	30.20659566
Low-inc homeowner severe housing cost burden	97.88271526
Low-inc renter severe housing cost burden	75.33684075
Uncrowded housing	22.40472219
Health Outcomes	—
Insured adults	50.3143847
Arthritis	98.6
Asthma ER Admissions	82.6
High Blood Pressure	98.8
Cancer (excluding skin)	96.0
Asthma	65.7
Coronary Heart Disease	98.7
Chronic Obstructive Pulmonary Disease	94.6
Diagnosed Diabetes	98.6
Life Expectancy at Birth	99.4
Cognitively Disabled	52.2
Physically Disabled	81.6
Heart Attack ER Admissions	76.4
Mental Health Not Good	58.7
Chronic Kidney Disease	99.0
Obesity	94.5
Pedestrian Injuries	72.5
Physical Health Not Good	93.2
Stroke	98.4
Health Risk Behaviors	—

Binge Drinking	4.3
Current Smoker	42.3
No Leisure Time for Physical Activity	69.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	25.4
Elderly	82.5
English Speaking	49.5
Foreign-born	80.9
Outdoor Workers	61.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	18.1
Traffic Density	92.8
Traffic Access	65.3
Other Indices	—
Hardship	52.6
Other Decision Support	—
2016 Voting	59.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64.0
Healthy Places Index Score for Project Location (b)	56.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Operations: Hearths	SCAQMD Rule 445 no wood burning devices. Wood burning devices added to gas devices.

ATTACHMENT D

CALEEMOD CUMULATIVE PLUS CONSERVATIVE/PROPOSED PROJECT SCENARIO EMISSIONS MODEL OUTPUTS

15937 - Irvine GPU Cumulative Plus Conservative Project Alternative (Operations) Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	15937 - Irvine GPU Cumulative Plus Conservative Project Alternative (Operations)
Operational Year	2045
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	19.6
Location	33.688397, -117.841364
County	Orange
City	Irvine
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6804
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Condo/Townhouse	37,345	Dwelling Unit	2,334	39,585,700	0.00	—	111,288	—

Apartments High Rise	18,050	Dwelling Unit	291	17,328,000	0.00	—	53,789	Multi-Family Housing
City Park	20.0	Acre	20.0	0.00	0.00	0.00	—	Botanical Garden
City Park	20.0	Acre	20.0	0.00	0.00	0.00	—	Veterans Memorial Garden
Library	60.0	1000sqft	1.38	60,000	0.00	—	—	—
General Office Building	7.18	1000sqft	0.16	7,180	0.00	—	—	Discovery Center
General Office Building	800	1000sqft	18.4	800,000	0.00	—	—	New Museum
City Park	65.0	Acre	65.0	0.00	0.00	0.00	—	—
High Turnover (Sit Down Restaurant)	23.0	1000sqft	0.53	23,000	0.00	—	—	Accessory Restaurant
Recreational Swimming Pool	40.4	1000sqft	0.93	40,365	0.00	—	—	Aquatic Center Pools
Arena	26.1	1000sqft	8.41	26,150	0.00	—	—	Aquatic Stadium
City Park	6.00	Acre	6.00	0.00	0.00	0.00	—	Skate Park
Racquet Club	17.6	1000sqft	0.40	17,600	0.00	—	—	Pickleball Court
Apartments High Rise	3,270	Dwelling Unit	52.7	3,139,200	0.00	—	9,745	Multi-Family Housing
Condo/Townhouse	11,723	Dwelling Unit	733	12,426,380	0.00	—	34,935	—
Health Club	90.0	1000sqft	2.07	90,000	0.00	—	—	—
Office Park	70.0	1000sqft	1.61	70,000	0.00	—	—	Office Mix
Recreational Swimming Pool	13.5	1000sqft	0.31	13,455	0.00	—	—	Aquatics
General Office Building	58.0	1000sqft	1.33	58,000	0.00	—	—	Community Facility
Racquet Club	22.5	1000sqft	0.52	22,464	0.00	—	—	Tennis Courts

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	629	2,205	1,661	6,517	16.3	128	763	891	127	193	321	34,707	2,843,175	2,877,883	3,597	37.2	720	2,979,606
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	252	1,849	1,632	2,217	15.8	126	763	889	126	193	319	34,707	2,806,130	2,840,837	3,596	37.8	563	2,942,569
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	379	2,026	567	4,520	8.77	39.3	716	755	38.9	182	220	34,707	1,409,423	1,444,131	3,570	34.6	625	1,544,306
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	69.2	370	103	825	1.60	7.17	131	138	7.09	33.1	40.2	5,746	233,346	239,092	591	5.73	103	255,678

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	74.4	56.4	88.8	1,796	6.29	2.01	763	765	1.88	193	195	—	640,414	640,414	13.0	16.5	161	645,806

Area	512	2,127	1,205	4,561	7.63	96.3	—	96.3	95.8	—	95.8	0.00	1,492,96	1,492,96	28.4	2.88	—	1,494,53
Energy	42.9	21.4	367	160	2.34	29.6	—	29.6	29.6	—	29.6	—	695,986	695,986	70.4	4.42	—	699,061
Water	—	—	—	—	—	—	—	—	—	—	—	5,439	13,806	19,245	559	13.5	—	37,245
Waste	—	—	—	—	—	—	—	—	—	—	—	29,268	0.00	29,268	2,925	0.00	—	102,399
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	559	559
Total	629	2,205	1,661	6,517	16.3	128	763	891	127	193	321	34,707	2,843,175	2,877,883	3,597	37.2	720	2,979,606
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	72.9	55.3	97.2	1,560	6.03	2.01	763	765	1.88	193	195	—	614,256	614,256	12.8	17.2	4.18	619,694
Area	137	1,772	1,168	497	7.45	94.4	—	94.4	94.4	—	94.4	0.00	1,482,082	1,482,082	27.9	2.79	—	1,483,611
Energy	42.9	21.4	367	160	2.34	29.6	—	29.6	29.6	—	29.6	—	695,986	695,986	70.4	4.42	—	699,061
Water	—	—	—	—	—	—	—	—	—	—	—	5,439	13,806	19,245	559	13.5	—	37,245
Waste	—	—	—	—	—	—	—	—	—	—	—	29,268	0.00	29,268	2,925	0.00	—	102,399
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	559	559
Total	252	1,849	1,632	2,217	15.8	126	763	889	126	193	319	34,707	2,806,130	2,840,837	3,596	37.8	563	2,942,569
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	69.6	52.8	94.4	1,542	5.80	1.91	716	718	1.79	182	183	—	590,662	590,662	12.2	16.5	66.1	595,942
Area	266	1,951	106	2,818	0.63	7.75	—	7.75	7.44	—	7.44	0.00	108,969	108,969	2.22	0.25	—	109,100
Energy	42.9	21.4	367	160	2.34	29.6	—	29.6	29.6	—	29.6	—	695,986	695,986	70.4	4.42	—	699,061
Water	—	—	—	—	—	—	—	—	—	—	—	5,439	13,806	19,245	559	13.5	—	37,245
Waste	—	—	—	—	—	—	—	—	—	—	—	29,268	0.00	29,268	2,925	0.00	—	102,399
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	559	559
Total	379	2,026	567	4,520	8.77	39.3	716	755	38.9	182	220	34,707	1,409,423	1,444,131	3,570	34.6	625	1,544,306
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	12.7	9.64	17.2	281	1.06	0.35	131	131	0.33	33.1	33.5	—	97,791	97,791	2.02	2.73	10.9	98,665
Area	48.6	356	19.3	514	0.12	1.41	—	1.41	1.36	—	1.36	0.00	18,041	18,041	0.37	0.04	—	18,063
Energy	7.83	3.91	67.0	29.2	0.43	5.41	—	5.41	5.41	—	5.41	—	115,228	115,228	11.7	0.73	—	115,738
Water	—	—	—	—	—	—	—	—	—	—	—	901	2,286	3,186	92.6	2.23	—	6,166
Waste	—	—	—	—	—	—	—	—	—	—	—	4,846	0.00	4,846	484	0.00	—	16,953
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92.5	92.5
Total	69.2	370	103	825	1.60	7.17	131	138	7.09	33.1	40.2	5,746	233,346	239,092	591	5.73	103	255,678

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	160,994	160,994	20.4	2.47	—	162,240
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	55,841	55,841	7.07	0.86	—	56,273
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Library	—	—	—	—	—	—	—	—	—	—	—	—	411	411	0.05	0.01	—	414
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	11,016	11,016	1.39	0.17	—	11,101
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	569	569	0.07	0.01	—	573
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Arena	—	—	—	—	—	—	—	—	—	—	—	—	179	179	0.02	< 0.005	—	181
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	—	275	275	0.03	< 0.005	—	277
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	617	617	0.08	0.01	—	622
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	891	891	0.11	0.01	—	898
Total	—	—	—	—	—	—	—	—	—	—	—	—	230,794	230,794	29.2	3.54	—	232,579
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	160,994	160,994	20.4	2.47	—	162,240
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	55,841	55,841	7.07	0.86	—	56,273
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	—	411	411	0.05	0.01	—	414
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	11,016	11,016	1.39	0.17	—	11,101

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	569	569	0.07	0.01	—	573
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Arena	—	—	—	—	—	—	—	—	—	—	—	—	179	179	0.02	< 0.005	—	181
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	—	275	275	0.03	< 0.005	—	277
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	617	617	0.08	0.01	—	622
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	891	891	0.11	0.01	—	898
Total	—	—	—	—	—	—	—	—	—	—	—	—	230,794	230,794	29.2	3.54	—	232,579
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	26,654	26,654	3.37	0.41	—	26,861
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	9,245	9,245	1.17	0.14	—	9,317
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	—	68.1	68.1	0.01	< 0.005	—	68.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	1,824	1,824	0.23	0.03	—	1,838
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	94.2	94.2	0.01	< 0.005	—	94.9

Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Arena	—	—	—	—	—	—	—	—	—	—	—	—	29.7	29.7	< 0.005	< 0.005	—	29.9
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	—	45.5	45.5	0.01	< 0.005	—	45.8
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	102	102	0.01	< 0.005	—	103
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	148	148	0.02	< 0.005	—	149
Total	—	—	—	—	—	—	—	—	—	—	—	—	38,211	38,211	4.84	0.59	—	38,506

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	34.8	17.4	298	127	1.90	24.1	—	24.1	24.1	—	24.1	—	377,891	377,891	33.4	0.71	—	378,939
Apartments High Rise	7.00	3.50	59.8	25.4	0.38	4.83	—	4.83	4.83	—	4.83	—	75,890	75,890	6.72	0.14	—	76,101
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Library	0.08	0.04	0.69	0.58	< 0.005	0.05	—	0.05	0.05	—	0.05	—	823	823	0.07	< 0.005	—	825
General Office Building	0.65	0.32	5.89	4.95	0.04	0.45	—	0.45	0.45	—	0.45	—	7,028	7,028	0.62	0.01	—	7,047

High Turnover (Sit Down Restaurant)	0.08	0.04	0.71	0.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	849	849	0.08	< 0.005	—	851
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Arena	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	359	359	0.03	< 0.005	—	360
Racquet Club	0.05	0.03	0.46	0.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	550	550	0.05	< 0.005	—	551
Health Club	0.11	0.06	1.03	0.87	0.01	0.08	—	0.08	0.08	—	0.08	—	1,235	1,235	0.11	< 0.005	—	1,238
Office Park	0.05	0.03	0.48	0.40	< 0.005	0.04	—	0.04	0.04	—	0.04	—	569	569	0.05	< 0.005	—	570
Total	42.9	21.4	367	160	2.34	29.6	—	29.6	29.6	—	29.6	—	465,193	465,193	41.2	0.88	—	466,483
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	34.8	17.4	298	127	1.90	24.1	—	24.1	24.1	—	24.1	—	377,891	377,891	33.4	0.71	—	378,939
Apartments High Rise	7.00	3.50	59.8	25.4	0.38	4.83	—	4.83	4.83	—	4.83	—	75,890	75,890	6.72	0.14	—	76,101
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Library	0.08	0.04	0.69	0.58	< 0.005	0.05	—	0.05	0.05	—	0.05	—	823	823	0.07	< 0.005	—	825
General Office Building	0.65	0.32	5.89	4.95	0.04	0.45	—	0.45	0.45	—	0.45	—	7,028	7,028	0.62	0.01	—	7,047
High Turnover (Sit Down Restaurant)	0.08	0.04	0.71	0.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	849	849	0.08	< 0.005	—	851

Recreati Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Arena	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	359	359	0.03	< 0.005	—	360
Racquet Club	0.05	0.03	0.46	0.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	550	550	0.05	< 0.005	—	551
Health Club	0.11	0.06	1.03	0.87	0.01	0.08	—	0.08	0.08	—	0.08	—	1,235	1,235	0.11	< 0.005	—	1,238
Office Park	0.05	0.03	0.48	0.40	< 0.005	0.04	—	0.04	0.04	—	0.04	—	569	569	0.05	< 0.005	—	570
Total	42.9	21.4	367	160	2.34	29.6	—	29.6	29.6	—	29.6	—	465,193	465,193	41.2	0.88	—	466,483
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	6.36	3.18	54.3	23.1	0.35	4.39	—	4.39	4.39	—	4.39	—	62,564	62,564	5.54	0.12	—	62,738
Apartments High Rise	1.28	0.64	10.9	4.64	0.07	0.88	—	0.88	0.88	—	0.88	—	12,564	12,564	1.11	0.02	—	12,599
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Library	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	136	136	0.01	< 0.005	—	137
General Office Building	0.12	0.06	1.07	0.90	0.01	0.08	—	0.08	0.08	—	0.08	—	1,164	1,164	0.10	< 0.005	—	1,167
High Turnover (Sit Down Restaurant)	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	141	141	0.01	< 0.005	—	141
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Arena	0.01	< 0.005	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	59.4	59.4	0.01	< 0.005	—	59.6
Racquet Club	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.0	91.0	0.01	< 0.005	—	91.2

Health Club	0.02	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	204	204	0.02	< 0.005	—	205
Office Park	0.01	< 0.005	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	94.1	94.1	0.01	< 0.005	—	94.4
Total	7.83	3.91	67.0	29.2	0.43	5.41	—	5.41	5.41	—	5.41	—	77,018	77,018	6.82	0.15	—	77,232

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	137	68.3	1,168	497	7.45	94.4	—	94.4	94.4	—	94.4	0.00	1,482,082	1,482,082	27.9	2.79	—	1,483,611
Consumer Products	—	1,576	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	127	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	375	355	37.3	4,065	0.18	1.88	—	1.88	1.42	—	1.42	—	10,887	10,887	0.46	0.09	—	10,925
Total	512	2,127	1,205	4,561	7.63	96.3	—	96.3	95.8	—	95.8	0.00	1,492,969	1,492,969	28.4	2.88	—	1,494,536
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	137	68.3	1,168	497	7.45	94.4	—	94.4	94.4	—	94.4	0.00	1,482,082	1,482,082	27.9	2.79	—	1,483,611

Consum Products	—	1,576	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	127	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	137	1,772	1,168	497	7.45	94.4	—	94.4	94.4	—	94.4	0.00	1,482,082	1,482,082	27.9	2.79	—	1,483,611
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.71	0.85	14.6	6.21	0.09	1.18	—	1.18	1.18	—	1.18	0.00	16,807	16,807	0.32	0.03	—	16,824
Consumer Products	—	288	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	23.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	46.9	44.4	4.66	508	0.02	0.23	—	0.23	0.18	—	0.18	—	1,235	1,235	0.05	0.01	—	1,239
Total	48.6	356	19.3	514	0.12	1.41	—	1.41	1.36	—	1.36	0.00	18,041	18,041	0.37	0.04	—	18,063

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	3,528	8,956	12,484	363	8.73	—	24,160

Apartment High Rise	—	—	—	—	—	—	—	—	—	—	—	1,533	3,891	5,424	158	3.79	—	10,497
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	3.60	9.13	12.7	0.37	0.01	—	24.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	295	748	1,043	30.3	0.73	—	2,018
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	13.4	34.0	47.3	1.38	0.03	—	91.6
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	6.10	15.5	21.6	0.63	0.02	—	41.8
Arena	—	—	—	—	—	—	—	—	—	—	—	21.6	54.8	76.4	2.22	0.05	—	148
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	4.54	11.5	16.1	0.47	0.01	—	31.1
Health Club	—	—	—	—	—	—	—	—	—	—	—	10.2	25.9	36.1	1.05	0.03	—	69.8
Office Park	—	—	—	—	—	—	—	—	—	—	—	23.8	60.5	84.4	2.45	0.06	—	163
Total	—	—	—	—	—	—	—	—	—	—	—	5,439	13,806	19,245	559	13.5	—	37,245
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	3,528	8,956	12,484	363	8.73	—	24,160
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	1,533	3,891	5,424	158	3.79	—	10,497
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Library	—	—	—	—	—	—	—	—	—	—	—	3.60	9.13	12.7	0.37	0.01	—	24.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	295	748	1,043	30.3	0.73	—	2,018
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	13.4	34.0	47.3	1.38	0.03	—	91.6
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	6.10	15.5	21.6	0.63	0.02	—	41.8
Arena	—	—	—	—	—	—	—	—	—	—	—	21.6	54.8	76.4	2.22	0.05	—	148
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	4.54	11.5	16.1	0.47	0.01	—	31.1
Health Club	—	—	—	—	—	—	—	—	—	—	—	10.2	25.9	36.1	1.05	0.03	—	69.8
Office Park	—	—	—	—	—	—	—	—	—	—	—	23.8	60.5	84.4	2.45	0.06	—	163
Total	—	—	—	—	—	—	—	—	—	—	—	5,439	13,806	19,245	559	13.5	—	37,245
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	584	1,483	2,067	60.1	1.45	—	4,000
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	254	644	898	26.1	0.63	—	1,738
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	0.60	1.51	2.11	0.06	< 0.005	—	4.08
General Office Building	—	—	—	—	—	—	—	—	—	—	—	48.8	124	173	5.02	0.12	—	334

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	2.21	5.62	7.84	0.23	0.01	—	15.2
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	1.01	2.56	3.57	0.10	< 0.005	—	6.91
Arena	—	—	—	—	—	—	—	—	—	—	—	3.57	9.07	12.6	0.37	0.01	—	24.5
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	0.75	1.91	2.66	0.08	< 0.005	—	5.15
Health Club	—	—	—	—	—	—	—	—	—	—	—	1.69	4.29	5.97	0.17	< 0.005	—	11.6
Office Park	—	—	—	—	—	—	—	—	—	—	—	3.95	10.0	14.0	0.41	0.01	—	27.0
Total	—	—	—	—	—	—	—	—	—	—	—	901	2,286	3,186	92.6	2.23	—	6,166

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	19,555	0.00	19,555	1,954	0.00	—	68,416
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	8,497	0.00	8,497	849	0.00	—	29,727
City Park	—	—	—	—	—	—	—	—	—	—	—	5.14	0.00	5.14	0.51	0.00	—	18.0

Library	—	—	—	—	—	—	—	—	—	—	—	29.8	0.00	29.8	2.98	0.00	—	104
General Office Building	—	—	—	—	—	—	—	—	—	—	—	434	0.00	434	43.3	0.00	—	1,517
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	148	0.00	148	14.7	0.00	—	516
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	165	0.00	165	16.5	0.00	—	578
Arena	—	—	—	—	—	—	—	—	—	—	—	0.39	0.00	0.39	0.04	0.00	—	1.36
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	123	0.00	123	12.3	0.00	—	431
Health Club	—	—	—	—	—	—	—	—	—	—	—	276	0.00	276	27.6	0.00	—	967
Office Park	—	—	—	—	—	—	—	—	—	—	—	35.1	0.00	35.1	3.51	0.00	—	123
Total	—	—	—	—	—	—	—	—	—	—	—	29,268	0.00	29,268	2,925	0.00	—	102,399
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	19,555	0.00	19,555	1,954	0.00	—	68,416
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	8,497	0.00	8,497	849	0.00	—	29,727
City Park	—	—	—	—	—	—	—	—	—	—	—	5.14	0.00	5.14	0.51	0.00	—	18.0
Library	—	—	—	—	—	—	—	—	—	—	—	29.8	0.00	29.8	2.98	0.00	—	104
General Office Building	—	—	—	—	—	—	—	—	—	—	—	434	0.00	434	43.3	0.00	—	1,517

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	148	0.00	148	14.7	0.00	—	516
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	165	0.00	165	16.5	0.00	—	578
Arena	—	—	—	—	—	—	—	—	—	—	—	0.39	0.00	0.39	0.04	0.00	—	1.36
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	123	0.00	123	12.3	0.00	—	431
Health Club	—	—	—	—	—	—	—	—	—	—	—	276	0.00	276	27.6	0.00	—	967
Office Park	—	—	—	—	—	—	—	—	—	—	—	35.1	0.00	35.1	3.51	0.00	—	123
Total	—	—	—	—	—	—	—	—	—	—	—	29,268	0.00	29,268	2,925	0.00	—	102,399
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	3,238	0.00	3,238	324	0.00	—	11,327
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	1,407	0.00	1,407	141	0.00	—	4,922
City Park	—	—	—	—	—	—	—	—	—	—	—	0.85	0.00	0.85	0.09	0.00	—	2.98
Library	—	—	—	—	—	—	—	—	—	—	—	4.93	0.00	4.93	0.49	0.00	—	17.2
General Office Building	—	—	—	—	—	—	—	—	—	—	—	71.8	0.00	71.8	7.18	0.00	—	251
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	24.4	0.00	24.4	2.44	0.00	—	85.4

Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	27.4	0.00	27.4	2.74	0.00	—	95.8
Arena	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.22
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	20.4	0.00	20.4	2.04	0.00	—	71.3
Health Club	—	—	—	—	—	—	—	—	—	—	—	45.8	0.00	45.8	4.57	0.00	—	160
Office Park	—	—	—	—	—	—	—	—	—	—	—	5.81	0.00	5.81	0.58	0.00	—	20.3
Total	—	—	—	—	—	—	—	—	—	—	—	4,846	0.00	4,846	484	0.00	—	16,953

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	373	373
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	147	147
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.23	0.23
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.0	36.0
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.16	0.16
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.43	0.43
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.17	0.17
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	559	559
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	373	373
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	147	147
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.23	0.23
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.0	36.0

Recreati Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.16	0.16
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.43	0.43
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.17	0.17
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	559	559
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.3	24.3
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Library	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.95	5.95
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Racquet Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03

Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92.5	92.5

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	1,079,438	893,121	893,121	374,564,669

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	37345
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Wood Fireplaces	0

Gas Fireplaces	11723
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Apartments High Rise	—
Wood Fireplaces	0
Gas Fireplaces	18050
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Wood Fireplaces	0
Gas Fireplaces	3270
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
146770542	48,923,514	1,761,591	587,197	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	171,494,383	261	0.0330	0.0040	897,413,737
Apartments High Rise	66,168,306	261	0.0330	0.0040	200,478,514
City Park	0.00	261	0.0330	0.0040	0.00
City Park	0.00	261	0.0330	0.0040	0.00
Library	575,564	261	0.0330	0.0040	2,568,116
General Office Building	127,950	261	0.0330	0.0040	181,988
General Office Building	14,256,229	261	0.0330	0.0040	20,277,174
City Park	0.00	261	0.0330	0.0040	0.00
High Turnover (Sit Down Restaurant)	796,497	261	0.0330	0.0040	2,648,027
Recreational Swimming Pool	0.00	261	0.0330	0.0040	0.00
Arena	250,850	261	0.0330	0.0040	1,119,271
City Park	0.00	261	0.0330	0.0040	0.00
Racquet Club	168,832	261	0.0330	0.0040	753,314
Apartments High Rise	11,987,278	261	0.0330	0.0040	36,319,376
Condo/Townhouse	53,833,944	261	0.0330	0.0040	281,707,892
Health Club	863,346	261	0.0330	0.0040	3,852,175
Office Park	1,247,420	261	0.0330	0.0040	1,774,253
Recreational Swimming Pool	0.00	261	0.0330	0.0040	0.00
General Office Building	1,033,577	261	0.0330	0.0040	1,470,095
Racquet Club	215,491	261	0.0330	0.0040	961,503

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	1,401,395,399	0.00
Apartments High Rise	677,337,983	0.00
City Park	0.00	0.00
City Park	0.00	0.00
Library	1,877,335	0.00
General Office Building	1,276,128	0.00
General Office Building	142,186,998	0.00
City Park	0.00	0.00
High Turnover (Sit Down Restaurant)	6,981,275	0.00
Recreational Swimming Pool	2,387,313	0.00
Arena	11,264,639	0.00
City Park	0.00	0.00
Racquet Club	1,040,919	0.00
Apartments High Rise	122,708,876	0.00
Condo/Townhouse	439,913,195	0.00
Health Club	5,322,883	0.00
Office Park	12,441,362	0.00
Recreational Swimming Pool	795,771	0.00
General Office Building	10,308,557	0.00
Racquet Club	1,328,592	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)

Condo/Townhouse	27,615	—
Apartments High Rise	13,347	—
City Park	1.72	—
City Park	1.72	—
Library	55.3	—
General Office Building	6.68	—
General Office Building	744	—
City Park	5.59	—
High Turnover (Sit Down Restaurant)	274	—
Recreational Swimming Pool	230	—
Arena	0.72	—
City Park	0.52	—
Racquet Club	100	—
Apartments High Rise	2,418	—
Condo/Townhouse	8,669	—
Health Club	513	—
Office Park	65.1	—
Recreational Swimming Pool	76.7	—
General Office Building	53.9	—
Racquet Club	128	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0

Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments High Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments High Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Library	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Library	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Library	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Library	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Recreational Swimming Pool	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Recreational Swimming Pool	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Arena	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Arena	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Arena	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Racquet Club	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Racquet Club	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

Apartments High Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments High Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Health Club	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Health Club	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Recreational Swimming Pool	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Recreational Swimming Pool	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Racquet Club	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Racquet Club	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.03	annual days of extreme heat
Extreme Precipitation	3.50	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	1.31	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score

Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	58.2
AQ-PM	68.7
AQ-DPM	84.2
Drinking Water	53.2
Lead Risk Housing	28.7
Pesticides	11.8
Toxic Releases	91.4
Traffic	88.9
Effect Indicators	—
CleanUp Sites	97.3
Groundwater	99.0
Haz Waste Facilities/Generators	98.4
Impaired Water Bodies	83.0
Solid Waste	97.7
Sensitive Population	—
Asthma	17.0
Cardio-vascular	20.8
Low Birth Weights	54.8
Socioeconomic Factor Indicators	—

Education	49.2
Housing	39.2
Linguistic	59.4
Poverty	55.5
Unemployment	5.57

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	47.45284229
Employed	76.27357885
Median HI	69.01065058
Education	—
Bachelor's or higher	70.42217375
High school enrollment	100
Preschool enrollment	16.21968433
Transportation	—
Auto Access	57.21801617
Active commuting	69.0619787
Social	—
2-parent households	42.17887848
Voting	31.99024766
Neighborhood	—
Alcohol availability	44.80944437
Park access	28.53843193
Retail density	94.63621199

Supermarket access	58.28307455
Tree canopy	29.41100988
Housing	—
Homeownership	19.54317978
Housing habitability	30.20659566
Low-inc homeowner severe housing cost burden	97.88271526
Low-inc renter severe housing cost burden	75.33684075
Uncrowded housing	22.40472219
Health Outcomes	—
Insured adults	50.3143847
Arthritis	98.6
Asthma ER Admissions	82.6
High Blood Pressure	98.8
Cancer (excluding skin)	96.0
Asthma	65.7
Coronary Heart Disease	98.7
Chronic Obstructive Pulmonary Disease	94.6
Diagnosed Diabetes	98.6
Life Expectancy at Birth	99.4
Cognitively Disabled	52.2
Physically Disabled	81.6
Heart Attack ER Admissions	76.4
Mental Health Not Good	58.7
Chronic Kidney Disease	99.0
Obesity	94.5
Pedestrian Injuries	72.5
Physical Health Not Good	93.2

Stroke	98.4
Health Risk Behaviors	—
Binge Drinking	4.3
Current Smoker	42.3
No Leisure Time for Physical Activity	69.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	25.4
Elderly	82.5
English Speaking	49.5
Foreign-born	80.9
Outdoor Workers	61.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	18.1
Traffic Density	92.8
Traffic Access	65.3
Other Indices	—
Hardship	52.6
Other Decision Support	—
2016 Voting	59.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64.0
Healthy Places Index Score for Project Location (b)	56.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Operations: Hearths	SCAQMD Rule 445 no wood burning devices. Wood burning devices added to gas devices.

APPENDIX C

Biological Technical Report City of Irvine General Plan Update

Biological Technical Report
City of Irvine
General Plan Update

August 2019

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ALDEN
ENVIRONMENTAL, INC

City of Irvine General Plan Update
Biological Technical Report

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1.0 INTRODUCTION

This Biological Technical Report describes the existing biological conditions within the City of Irvine (City; Figures 1 and 2). The information contained in this report will be used to inform the General Plan Update and Environmental Impact Report (EIR) for the City. Detailed information provided in this report includes regulatory context, existing biological conditions, sensitive biological resources, future opportunities to protect the natural environment, and constraints to development.

2.0 METHODS

Research for this report included a review of current federal, State, and local regulations; aerial imagery; U.S. Geological Survey (USGS) topographic maps; U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey maps; climate information for the City; and reputable online resources that provide data for the region. In addition, existing biological resource documents for the Natural Community Conservation Plan/Habitat Conservation Plan for the Central and Coastal Subregion of Orange County, California (NCCP/HCP) were also reviewed for pertinent information. Queries were also made of the California Natural Diversity Database (CNDDB) and U.S. Fish and Wildlife Service (USFWS) Listed Species Database to identify known sensitive biological resources in the vicinity of the City.

3.0 EXISTING BIOLOGICAL RESOURCES SETTING

This section describes the regulatory context, existing biological conditions, and sensitive biological resources found within the City.

3.1 REGULATORY CONTEXT

To establish the regulatory context for the City General Plan Update, a variety of federal, State, and local regulations were evaluated to determine if they may be applicable to future proposed projects within the City. In addition, regional land use and management, including established parks, reserves, and linkages were evaluated to provide the regional regulatory framework for the City General Plan Update.

3.1.1 Federal Regulations

Several federal regulations may apply to future projects that are proposed within the City. These include, but are not limited to:

- National Environmental Policy Act
- Federal Endangered Species Act of 1973 (16 United States Code [USC] 1531 *et seq.*)
- Clean Water Act of 1972 (33 USC 1251 *et seq.*)
- Migratory Bird Treaty Act of 1918 (16 USC 703 through 711)
- Bald and Golden Eagle Protection Act (16 USC 668)
- Fish and Wildlife Coordination Act (16 USC 661 *et seq.*)
- Floodplain Management and Protection of Wetlands (42 FR 26961, 52 FR 34617)
- Invasive Species (64 FR 6138)

These federal regulations are described in detail below.

National Environmental Policy Act

The National Environmental Policy Act (NEPA) was passed in 1969 and established a broad national framework for protecting the environment by assuring that all branches of government give proper consideration to the environment prior to undertaking any major federal action that has the potential to significantly affect the environment. NEPA applies to projects undertaken, funded, or requiring the issuance of a permit by a federal agency, including projects associated with airports, buildings, military complexes, highways, parkland purchases, and other federal activities are proposed.

NEPA is administered by the President's Council on Environmental Quality (CEQ), which is supported by a staff of environmental professionals. CEQ's main responsibilities in the NEPA process are to gather information on the conditions and trends in environmental quality, to evaluate federal programs in light of the goals established by NEPA, to develop and promote national policies to improve environmental quality, and to conduct studies, surveys, research, and analyses relating to ecosystems and environmental quality. In addition, federal agencies may involve the California Environmental Quality Act (CEQA) in the NEPA process when there are disagreements concerning the environmental effects of a proposed action.

The federal agency responsible for complying with NEPA is the agency that is proposing to implement the federal action; however, several federal agencies may be involved with the NEPA process based on an agency's expertise and relationship to the proposed action. A federal agency may be a Lead Agency or a Cooperating Agency in the NEPA process.

A Lead Agency is designated when more than one federal agency is involved in a proposed action. The Lead Agency is responsible for supervising the environmental analysis and the preparation of the appropriate environmental document, such as a Categorical Exclusion (CE), Finding of No Significant Impact (FONSI), Environmental Assessment (EA), or Environmental Impact Statement (EIS).

A Cooperating Agency is a federal, State, local, or tribal agency that has jurisdiction over a proposed action or that has special expertise with an environmental issue associated with the proposed action. The Cooperating Agency assists the Lead Agency by participating in the entire NEPA process, including the scoping, environmental analysis, and document preparation.

Any federal lead agency may be a Lead Agency or a Cooperating Agency, depending upon the specifics of the proposed action. However, the Environmental Protection Agency (EPA) has a unique role in the NEPA review process because it is required to review and publicly comment on the environmental impacts of major proposed federal actions, specifically those for which an EIS is required. If the EPA determines that the environmental analysis is unsatisfactory or that the proposed action would have adverse environmental effects, it is required to involve CEQ in the NEPA process.

Source: National Geographic; Esri

Figure 1

Regional Location

BIOLOGICAL TECHNICAL REPORT
CITY OF IRVINE
GENERAL PLAN UPDATE

N
W E
S

0 2 4 Miles

ALDEN ENVIRONMENTAL, INC

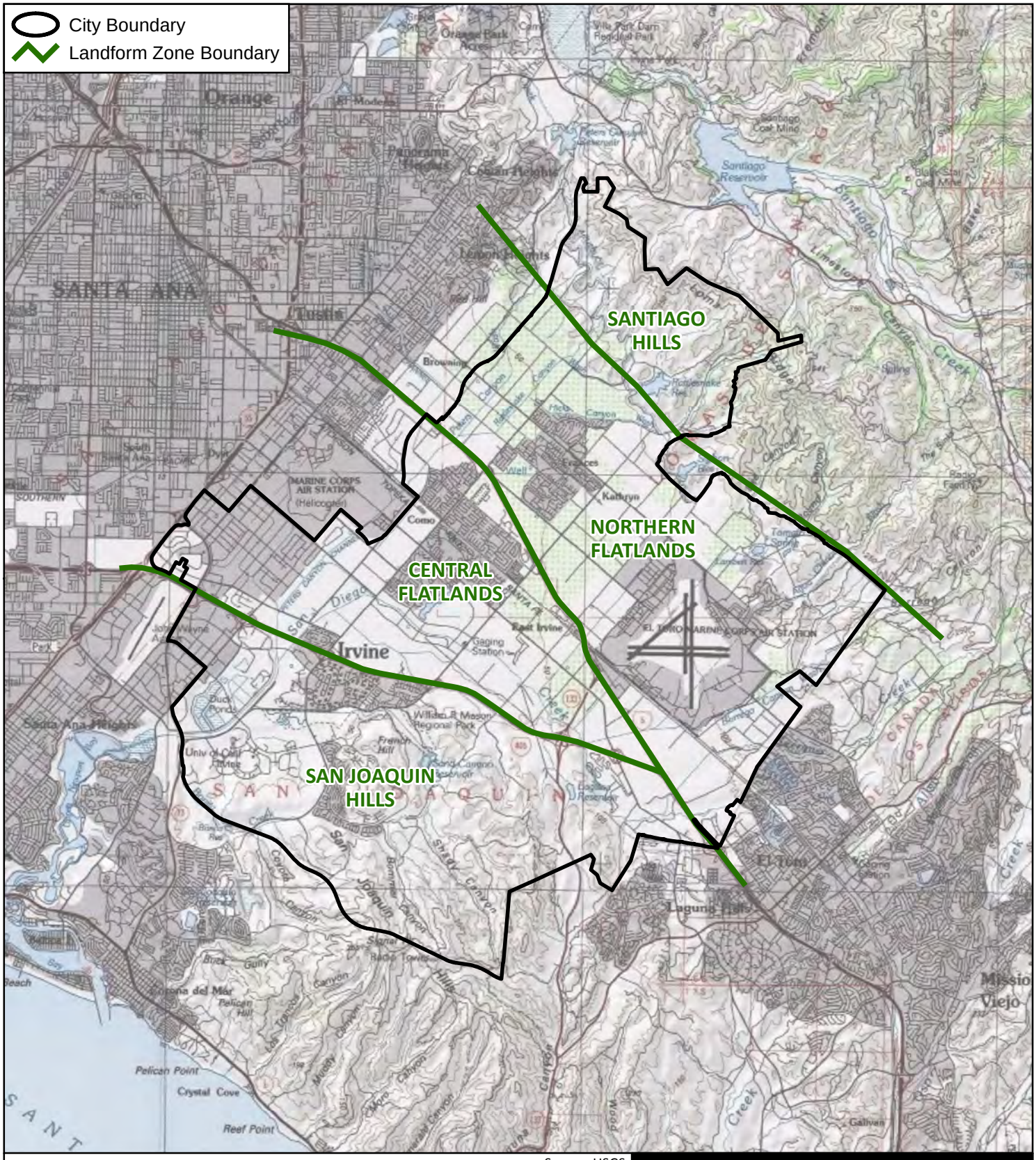


Figure 2

Location Map

BIOLOGICAL TECHNICAL REPORT
CITY OF IRVINE
GENERAL PLAN UPDATE

Federal Endangered Species Act of 1973 (16 United States Code [USC] 1531 *et seq.*)

The Federal Endangered Species Act of 1973 (FESA) was designed to protect critically imperiled plant and wildlife species from extinction by eliminating or reducing the threats to these species and by aiding in the recovery and/or maintenance of the species populations. FESA designates species that are endangered or threatened, as well as species that are candidates for listing and protects these species from unauthorized "take", which is defined as to "harass, harm, pursue, hunt, shoot, wound, kill trap, capture, or collect, or to attempt to engage in any such conduct." FESA also designates critical habitat for federally listed species and protects these species from interference with vital breeding and behavioral activities and from critical habitat degradation.

FESA is administered by the USFWS for freshwater fish and terrestrial wildlife and the National Oceanic and Atmospheric Administration (NOAA) for marine and anadromous species. A person, defined as an "individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal Government, of any State, municipality, or political subdivision of a State, or of any foreign government; any State, municipality, or political subdivision of a State; or any other entity subject to the jurisdiction of the United States," is prohibited from taking a listed species until an appropriate permit pursuant to Section 7, 9, and/or 10 of the FESA has been obtained from USFWS and/or NOAA.

Clean Water Act of 1972 (33 USC 1251 *et seq.*)

Sections 404 and 401 of the Clean Water Act of 1972 (CWA) apply to potential impacts to wetlands, Waters of the U.S., and Waters of the State. The EPA administers the CWA; however, some sections of the CWA are administered by other agencies.

Section 404 of the CWA regulates the discharge of dredged or fill material into navigable waters, including both wetlands and other Waters of the U.S. The discharge of dredged or fill material is typically associated with a variety of development projects, agricultural activities, and water resource projects. The U.S. Army Corps of Engineers (Corps) administers Section 404 of the CWA and is responsible for issuing general and individual permits and for making jurisdictional determinations.

Section 401 of the CWA requires a State Water Quality Certification or waiver for any activity requiring a Section 404 permit. The State Water Quality Certification ensures the activity will not violate any established State water quality standards. The State Water Resources Control Board (SWRCB), in conjunction with the nine California Regional Water Quality Control Boards (RWQCBs), administers Section 401 of the CWA and is responsible for issuing permits pursuant to the Section 401 Water Quality Certification Program.

Migratory Bird Treaty Act of 1918 (16 USC 703 through 711)

The Migratory Bird Treaty Act of 1918 (MBTA) implements various conventions and treaties between the United States and Canada, Mexico, Japan, and Russia for the protection of over 800 migratory bird species. Under the MBTA, it is unlawful to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird…or any part, nest, or egg of any such bird" (16 USC 703).

The MBTA is administered by USFWS. Take permits for MBTA species are rarely issued, except for specific actions to aid recovery of a species; however, USFWS establishes hunting seasons for species for which there is a long tradition of hunting, as long as hunting will not adversely impact their population status or long-term conservation. While the MBTA includes approximately 170 species of game birds, hunting is typically authorized for fewer than 60 of these species each year.

Bald and Golden Eagle Protection Act (16 USC 668)

The Bald and Golden Eagle Protection Act (BGEPA) provides protection for both the bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) by prohibiting the "take" of either of these species, including their parts, nests, or eggs. The MBTA defines "take" as to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" any bald or golden eagle. The BGEPA is administered by the USFWS, and limited take authorizations are granted for qualifying activities. Persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle [or any golden eagle], alive or dead, or any part, nest, or egg thereof" without prior approval are subject to criminal penalties.

Fish and Wildlife Coordination Act (16 USC 661 *et seq.*)

The Fish and Wildlife Coordination Act of 1934, as amended, requires coordination with USFWS and CDFW so that these agencies may evaluate impacts to fish and wildlife species that have the potential to result from proposed water resource development projects. Specifically, the Act requires that fish and wildlife species as well as habitats that may support them be given equal consideration to other project features. This Act also requires federal agencies that construct, license, or permit water resource development projects to first coordinate with USFWS and CDFW to determine impacts that may occur to fish and wildlife resources and establish appropriate avoidance, minimization, and/or mitigation measures to reduce these potential impacts.

Floodplain Management and Protection of Wetlands (42 FR 26961, 52 FR 34617)

Executive Order 11990, Protection of Wetlands, as amended, requires federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance functions and values of these wetlands while carrying out their responsibilities pertaining to water supply, erosion and flood prevention, maintenance of natural systems, among others.

Invasive Species (64 FR 6138)

Executive Order 13112, Invasive Species, as amended, requires federal agencies to coordinate efforts that prevent the introduction of invasive species (both plant and wildlife species not native to the U.S.), manage existing invasive species, and minimize the economic, ecological, and human health impacts that invasive species cause. This order defines invasive species, requires federal agencies to address invasive species concerns, and prohibits new actions that would cause or promote the introduction of invasive species. To comply with this Order, all enhancement, restoration, and creation activities should use native plants and should include measures to prevent the introduction of invasive species.

3.1.2 State Regulations

Several State regulations may apply to future projects that are proposed within the City. These include, but are not limited to the:

- California Environmental Quality Act
- California Endangered Species Act (Fish and Game Code 2050 *et seq.*)
- California Fish and Game Code
- California Porter-Cologne Water Quality Control Act
- California Natural Community Conservation Planning Program

These State regulations are described in detail below.

California Environmental Quality Act

The CEQA was passed in 1970 as the State counterpart to NEPA to institute a statewide policy of environmental protection. CEQA applies to projects undertaken, funded, or requiring the issuance of a permit by a State or local public agency and requires the project proponent to identify significant environmental impacts as well as avoidance, minimization, and/or mitigation measures to reduce these impacts to below a level of significance.

The CDFW has jurisdiction over the conservation, protection, and management of native habitats, plant species, and wildlife species found within California and is responsible for maintaining sustainable populations of these habitats and species. The CDFW provides biological expertise to review and comment on CEQA documents, including the impacts resulting from proposed project activities and the proposed avoidance, minimization, and mitigation measures associated with these impacts. The CDFW may play various roles in the CEQA process; the CDFW is always a Trustee Agency and may also be a Lead Agency or a Responsible Agency.

The CDFW is one of four trustee agencies, which also include the State Lands Commission, the Department of Parks and Recreation, and the University of California. As a Trustee Agency, the CDFW has jurisdiction over certain resources held in trust for the people of California and is typically required to be notified of CEQA documents that are relevant to its jurisdiction, such as documents for projects involving fish and wildlife resources. As a Trustee Agency, the CDFW cannot approve or disapprove a project; however, the lead and responsible agencies must consult

with the CDFW, and the CDFW reviews the CEQA document(s) and provides recommendations regarding the resources under their jurisdiction (Fish and Game Code Section 1802).

When the CDFW proposes to implement its own project, it is designated as the Lead Agency in the CEQA process and serves as the California government agency with principle responsibility for implementing or approving the proposed project. Such projects typically include projects in state wildlife areas and state fish hatcheries as well as habitat or stream restoration projects. Additionally, the CDFW is the Lead Agency when it is the only agency issuing a permit, as is sometimes the case with Streambed Alteration Agreements. As the Lead Agency for such projects, the CDFW is responsible for preparing the CEQA document and determines whether a Negative Declaration or an EIR is required by CEQA (CEQA Statutes, Sections 21080.3 and 21104.2; Guidelines, Sections 15050 and 15367).

The CDFW is also sometimes designated as a Responsible Agency, which is an agency, other than the Lead Agency, that has the legal responsibility for implementing and approving a proposed project. The CDFW is designated as the Responsible Agency when the Lead Agency requires a 1600 Streambed Alteration Agreement or a 2081(b) California Endangered Species Act Incidental Take Permit for a project. As a Responsible Agency, CDFW actively participates in the CEQA process by reviewing the Lead Agency's CEQA document and using that document to make decisions about the proposed project, to prepare and issue its own findings regarding the project (CEQA Guidelines, Sections 15096 and 15381), and to determine whether or not to issue an incidental take permit.

California Endangered Species Act (CESA; Fish and Game Code 2050 *et seq.*)

The CESA parallels FESA and protects and/or preserves native plant and wildlife species and their habitats, especially those that are threatened with extinction and those that are experiencing significant decline that may lead to a threatened or endangered designation, within the State of California. CESA designates special status species that are protected from unauthorized "take", which is defined as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

CESA is administered by the CDFW. A State lead agency is required to consult with the CDFW to ensure that a proposed project is not likely to jeopardize the continued existence of a special status species or result in the destruction or adverse modification of essential habitat for a species. CESA allows for the issuance of incidental take permits for lawful development projects and emphasizes the benefits of early consultation between the lead agency and CDFW to avoid potential impacts to special status species and to develop appropriate mitigation measures to reduce impacts to and avoid loss of a special status species.

California Fish and Game Code

Several sections of the California Fish and Game Code, which is administered by the CDFW, also may apply to future projects proposed in the City. These include Section 2081; Sections 1600 through 1616; Sections 1900, et seq.; Sections 2511, 4700, 5050, and 5515; Sections 3503, 3503.5, and 3513; and Title 14, California Code of Regulations, Section 670.2 and 670.6. Each of these sections is discussed in detail below.

Section 2081

Section 2081 of the California Fish and Game Code allows for the issuance of an incidental take permit from CDFW for projects that have the potential to take a special status species, including a State-listed species, as long as the impacts are minimized and fully mitigated and will not jeopardize the continued existence of a State-listed species. The measures required to minimize and fully mitigate impacts must be roughly proportional to the extent of the proposed impact to the species and must be capable of successful implementation while maintaining the applicant's objectives to the greatest extent feasible. The applicant must show that adequate funding is available to implement the required avoidance and mitigation measures and monitor the effectiveness of the mitigation measures.

Sections 1600 through 1616

Sections 1600 through 1616 of the California Fish and Game Code apply to all projects that would 1) substantially divert or obstruct the natural flow of, 2) substantially change or use any material from, or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement into the bed, channel, or bank of any river, stream, or lake. Sections 1600 through 1616 require any person, business, public utility, or state or local government agency that proposes any activity within or adjacent to a lake, river, or stream that flows at least intermittently through a bank or channel, including watercourses with a subsurface flow (e.g., ephemeral streams, desert washes) and some flood plains, to notify the regional CDFW office of the proposed activity. CDFW will determine if the proposed activity may substantially adversely affect fish and wildlife resources and if a Streambed Alteration Agreement (SAA) is necessary.

Other Sections

Additional sections of the California Fish and Game Code may apply to future projects proposed in the City, including, but not limited to, Sections 1900 through 1913; Sections 2511, 4700, 5050, and 5515; Sections 3503, 3503.5, and 3513; and Title 14, California Code of Regulations, Section 670.2 and 670.6. Sections 1900 through 1913 provide guidelines to preserve, protect, and enhance endangered or rare native plants within California. Sections 2511, 4700, 5050, and 5515 provide guidelines to protect wildlife species that are designated as "fully protected" by the CDFW and as therefore cannot be harmed, taken, or possessed. Sections 3503, 3503.5, and 3513 state that it is unlawful to take, possess, or destroy the nest or eggs of any bird species except otherwise allowed by the or any regulation made pursuant to the California Fish and Game Code. Section 3503.5 provides protection specifically in the orders Falconiformes (hawks, eagles, and flacons) and Strigiformes (owls), and Section 3513 provides protection specifically for migratory, non-game birds designated by the MBTA. Title 14, California Code of Regulations, Section 670.2 and 670.6 list wildlife species that are designated as California Species of Concern or are State-listed as threatened or endangered species.

California Porter-Cologne Water Quality Control Act

The California Porter-Cologne Water Quality Control Act was enacted in 1969 and is administered by either the SWRCB and/or the RWQCB. This Act provides protection for Waters of the State, which are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." If a proposed project involves alteration to any Waters of the State, the project proponent must file a Report of Waste Discharge with the appropriate RWQCB to obtain "Waste Discharge Requirements" (WDRs), which serve as the project discharge permit.

California Natural Community Conservation Planning Program

The California Natural Community Conservation Planning (NCCP) program was initiated in 1991 and is administered by CDFW. It is a cooperative effort by the CDFW and numerous public and private partners that takes a broad scale, ecosystem approach to planning for the protection and perpetuation of biological diversity throughout California by protecting both habitats and the species within these habitats while also accommodating compatible land use.

An NCCP plan identifies and provides for the regional protection of plants, wildlife, and their habitats, while allowing compatible and appropriate economic activity in the region. By including key interests in the process and by working with landowners, environmental organizations, and other interested parties, an NCCP plan provides the framework for a local agency to oversee the numerous activities that compose the development of a conservation plan. Within California, there are currently 23 active NCCP plans covering more than 11 million acres, and several draft NCCP plans are pending approval. The City is a signatory to the Implementation Agreement of the NCCP/HCP for the Central and Coastal Subregion of Orange County (R.J. Meade Consulting, Inc. 1996a, 1996b).

Irvine Open Space Initiative

In 1988, Irvine residents approved the "Irvine Open Space Initiative." This initiative created the framework to preserve large, contiguous open space areas for conservation and open space as phased master-planned growth occurred in other areas of the City. This initiative set the stage for the preservation of natural open space resources that are home to a variety of wildlife species and habitats, including special status species. The Irvine Open Space Preserve, as it now is known, protects more than 93,000 acres of land from the "mountains to the sea," linking the Cleveland National Forest, San Joaquin Marsh (San Joaquin Wildlife Sanctuary), Laguna Coast Wilderness Park, and other resources.

The Cleveland National Forest encompasses 460,000 acres and is the southernmost national forest in California located in San Diego, Riverside, and Orange counties. The San Joaquin Wildlife Sanctuary is a 300-acre constructed wetland in the floodplain of San Diego Creek just above its outlet to Upper Newport Bay. The Laguna Coast Wilderness Park encompasses 7,000 acres in the San Joaquin Hills and features some of the last remaining undeveloped coastal canyons in southern California and the only natural lakes in Orange County.

The City has committed to protect and manage the Irvine Open Space Preserve consistent with the NCCP. The City and many other local governments and public and private agencies adopted the NCCP/HCP to cover this area. Of the NCCP/HCP acres in Irvine, 10,587 are designated for the habitat reserve system, and 813 acres are non-reserve lands called special linkages. The special linkages contain biological value that could enhance connectivity between elements of the reserve system. The City is required to implement the NCCP/HCP and review project proposals for consistency with the plan.

3.1.3 Local Regulations

Existing General Plan

Irvine's existing General Plan (City 2015) established a Preservation land use designation to identify lands that contain visually significant ridgelines, biotic communities of high significance, geologic constraints, and cultural resources. This designation covers more than 11,000 acres, or nearly one-quarter of the land mass in the City. The Conservation and Open Space Element identifies goals, objectives, and policies to maintain and preserve these resources.

Key objectives and policies include, but are not limited to, the following:

• Objective L-1: Establish a program to permanently protect and preserve designated conservation and open space areas. Supporting policy addresses implementation of the phased dedication and compensating development program.

• Objective L-2: Maintain and preserve areas with significant, diverse biotic communities. Supporting policies address preservation of natural resource areas identified in the Master Environmental Assessment and development in biotic resource areas.

• Objective L-3: Participate in the NCCP/HCP to accomplish multi-species and multi-habitat conservation. Supporting policies ensure compliance with and implementation of the NCCP, including review of project proposals, payment of mitigation fees, and acquisition.

• Objective L-12: Coordinate land planning efforts with the appropriate federal, State & local agencies and landowners to encourage the integration of existing and future water sources (reservoirs, lakes, and drainage courses) into development.

Municipal Code

In Chapter 8-16 of the Zoning Code, Open Space Management and Conservation Plan (OSMCP), the City requires the preparation of such plans for qualified development projects. The OSMCP shall be utilized as the primary implementation tool for complying with biotic policies identified in biotic resources objectives L-2(a) and L-2(b) of the Conservation and Open Space Element, the timing and phasing of mitigation measures, and the responsibilities for implementation. This plan shall be prepared in conjunction with a concept plan and/or zone change application and in accordance with the City's guidelines for open space management and conservation plan reports. In addition, the plan will address "transition zones" described in the zoning code.

3.2 EXISTING BIOLOGICAL CONDITIONS

3.2.1 Environmental Setting

The City of Irvine lies within the coastal and foothill region of central Orange County, California (Figures 1 and 2).

The average, annual high temperature in the City is 72.7 degrees Fahrenheit. The warmest month, August, averages a high of 83 degrees Fahrenheit. The coolest months, December/January, average a low of 47 degrees Fahrenheit. The City receives average annual precipitation, as rainfall, of 14.42 inches, with most of the rain falling from November through March (U.S. Climate Data 2018).

The City has four major landform areas (Figure 2) that are generally described below.

Santiago Hills

The Santiago Hills consist of moderately steep to steep, unbuildable slopes, canyons, plateaus, and narrow ridges, which reach an elevation of 1,700 feet. Eroded sandstone gorges known as the "sinks" are the most significant physical feature in the southeast corner. Other important features are the canyons—Agua Chinon, Bee, Hicks, Little Joaquin, Rattlesnake, and Round. Santiago Hills have retained most of their natural biotic character; their biotic communities are freshwater marsh, coastal sage scrub, oak woodland, and grassland.

Northern Flatlands

The flatlands extend from the Santiago Hills to the Santa Ana Freeway (Interstate 5). This area is nearly flat, gradually sloping from the northeast to the southwest and traversed by many streams that are part of the San Diego Creek Watershed that originates in the Santiago Hills.

The increased demand for housing and employment in Orange County has resulted in substantial land use changes from agriculture to urban development within the San Diego Creek Watershed. Agricultural uses, which began in the 19th century, already altered the watershed's natural conditions and hydrology, including increased runoff in Newport Bay and channelization of San Diego Creek (Corps 2008b rev. 2009).

The natural biotic communities of the Northern Flatlands have been altered by agricultural activities, except near the perimeters. This area hosts orchards, row crops, eucalyptus windrows, and non-native, ornamental vegetation.

Central Flatlands

The central flatlands are also a portion of the Tustin Plain between Interstate 5 and the San Diego Freeway (Interstate 405). The area is extremely flat and crossed by San Diego Creek and Peters Canyon Wash. The natural biotic communities have, for the most part, been altered by agricultural activities and urban development. The primary biotic communities are farmland/rural and urban, except for the riparian community in Planning Areas 12 and 13.

San Joaquin Hills

The San Joaquin Hills consist of rolling terrain with moderately steep slopes, canyons, narrow ridges, and spectacular rock outcroppings, many of which contain eroded sandstone caves. Wildlife habitats and vegetation types include both rare and common wildlife and plant species. Important habitat for the coastal California gnatcatcher (*Polioptila californica californica*) and coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*) is in the northeastern and southeastern corners of the City and unincorporated Orange County.

3.2.2 Topography and Soils

The topography within the City consists generally of flatlands and hills as described above in Section 3.2.1 of this report. Elevations in the City range from approximately 10 to 1,700 feet above mean sea level. Forty-two soil types are mapped by the USDA NRCS within the City as listed in Table 1.

Table 1 SOIL TYPES WITHIN THE CITY	
Name	**Percent Slope**
Alo clay	9-50
Alo variant clay	9-50
Anaheim clay loam	15-75
Anaheim loam	15-50
Balcom-Rock outrock complex	15-50
Balcom clay loam	9-50
Bosanko-Balcom complex	15-50
Bosanko clay	9-50
Botella clay loam	2-15
Botella loam	2-9
Calleguas clay loam	50-75
Capistrano sandy loam	2-15
Chesterton loamy sand	2-30
Chino silty clay loam	NA
Cieneba-Rock outcrop complex	9-75
Cieneba sandy loam	15-75
Corralitos loamy sand	NA
Cropley clay	2-9
Gabino gravelly clay loam	15-50
Marina loamy sand	2-9
Metz loamy sand	NA
Mocho loam	0-9
Mocho sandy loam	0-2
Myford sandy loam	0-30
Omni clay	NA
Omni silt loam	NA
Pits	NA
Riverwash	NA
Rock outcrop-Cieneba complex	30-75
San Andreas sandy loam	15-30
San Emigdio fine sandy loam	0-9
Soper cobbly loam	15-50
Soper gravelly loam	30-50
Soper loam	30-50
Sorrento clay loam	0-9
Sorrento loam	0-9
Sorrento sandy loam	0-2
Thapto-Histic Fluvaquents	NA
Tidal Flats	NA
Water	NA
Yorba cobbly sandy loam	9-30
Yorba gravelly sandy loam	2-15

3.2.3 Vegetation and Land Cover Types

Vegetation and land cover types that occur within the City (Figure 3) were identified through the most current (2015) vegetation mapping from the Nature Reserve of Orange County. Based on this information, 17 types occur within the City and include:

- Annual Grassland
- Perennial Grassland
- Annual Grassland/Perennial Grassland
- Coastal Oak Woodland
- Mixed Chaparral
- Coastal Scrub
- Lacustrine
- Riverine
- Barren
- Riverine, Barren
- Estuarine, Lacustrine, Riverine
- Valley Foothill Riparian
- Eucalyptus
- Fresh Emergent Wetland
- Saline Emergent Wetland
- Orchard-Vineyard, Evergreen Orchard, Irrigated Row and Field Crops
- Urban

Each of these types is described in detail below. Because the Nature Reserve of Orange County vegetation map does not include descriptions of the land cover classifications, the descriptions below are based on information obtained from various resources that provide general vegetation community descriptions, including the CDFW Wildlife Habitat Relationships System among others.

In addition, some of these vegetation communities occur in transitional or ecotonal zones within the City (e.g., Estuarine, Lacustrine, Riverine), where one or more of the definitions provided below may apply. To avoid repetition, each is described separately (e.g., Riverine is described once instead of three times for Riverine; Riverine, Barren; and Estuarine, Lacustrine, Riverine).

Annual Grassland

Annual grassland is open grassland composed primarily of annual plant species. The community's structure depends largely on weather patterns and livestock grazing. Dramatic differences in physiognomy, both between seasons and between years, are characteristic of this habitat. Introduced annual grasses are the dominant plant species. These species include wild oats, soft chess, ripgut brome, red brome, wild barley, and foxtail fescue. Common forbs include broadleaf filaree, redstem filaree, turkey mullein, true clovers, bur clover, popcorn flower, and others. California poppy, the State flower, may also be found in this habitat (CDFW Wildlife Habitat Relationships System 2005).

Perennial Grassland

Perennial grassland consists of climax stands of perennial bunchgrasses, such as purple needlegrass, on wetter sites (CDFW Wildlife Habitat Relationships System 2005).

Coast Oak Woodland

Coastal live oak woodland occurs in more mesic areas of coastal California from Sonoma County south into Baja California, Mexico. These woodlands are found within a 50-mile radius of the coast. Fog is common in these areas, and the soils are typically well drained. Although not limited to these areas, coastal live oak woodland is common in ravines and moist drainages between grassy hillsides. The dominant plant species is coast live oak (*Quercus agrifolia*; Cal Poly 2018).

Mixed Chaparral

Mixed Chaparral is a structurally homogeneous community dominated by shrubs with thick, evergreen leaves. Shrub height and crown cover vary considerably with age since last burn, precipitation regime, aspect, and soil type. At maturity, cismontane Mixed Chaparral typically is a dense, nearly impenetrable thicket with greater than 80 percent absolute shrub cover (Hanes 1977).

Coastal Scrub

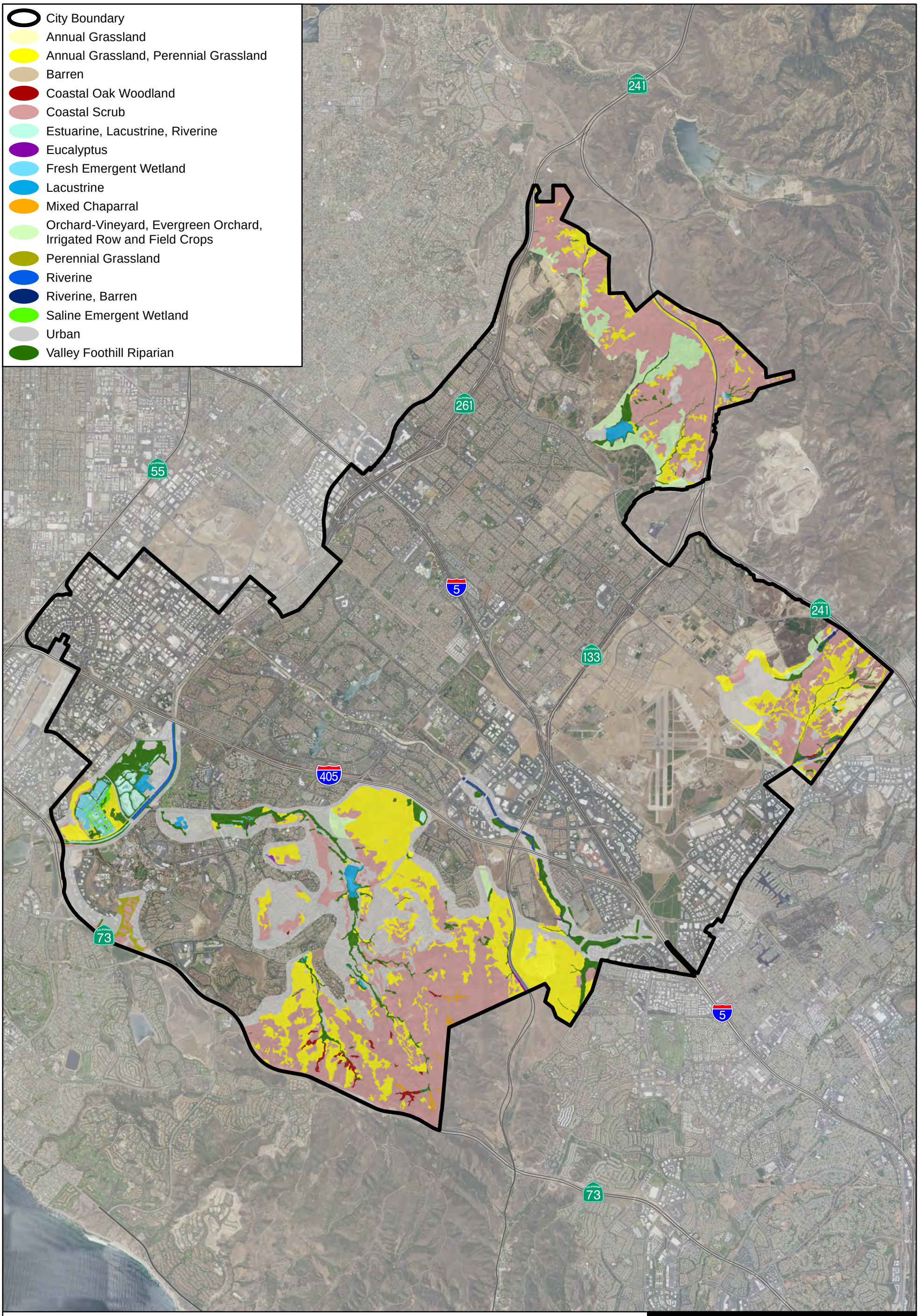
Coastal scrub is dominated by semi-woody, low- to moderate-sized shrubs with shallow root systems. No single species is typical of all Coastal Scrub stands. Species composition changes with progressively more xeric conditions from north to south along the coast. Species dominance appears to shift from evergreen species in the north to drought-deciduous species in the south (CDFW Wildlife Habitat Relationships System undated).

Lacustrine

Lacustrine habitats are inland depressions or dammed riverine channels containing standing water (Cowardin et al. 1979). Depth can vary from a few centimeters to hundreds of meters. Typically, lacustrine habitats include permanently flooded lakes and reservoirs, intermittent lakes, and ponds (including vernal pools; CDFW Wildlife Habitat Relationships System undated).

Riverine

Riverine systems consist of intermittent or continually running water. A stream originates at an elevated source, such as a spring or lake, and flows downward at a rate relative to slope or gradient and the volume of surface runoff or discharge. Velocity generally declines at progressively lower altitudes, and the volume of water increases until the enlarged stream finally becomes sluggish (McNaughton and Wolf 1973). Some streams, except for occasional pools, dry up seasonally every year (CDFW Wildlife Habitat Relationships System undated).



Source: Nature Reserve of Orange County (NROC); USDA NAIP 2016; Esri

ALDEN ENVIRONMENTAL, INC

Figure 3

Vegetation and Land Cover Types

BIOLOGICAL TECHNICAL REPORT
CITY OF IRVINE
GENERAL PLAN UPDATE

Barren

Barren land lacks vegetation, typically because of recent and/or continuous clearing of vegetation. It often consists of rock, gravel, and/or soil. These areas differ from "urban," discussed below, because they do not support buildings, paved roads, parking lots, or ornamental plantings.

Riverine, Barren

See Riverine and Barren as described above.

Estuarine, Lacustrine, Riverine

Estuarine habitats either 1) have constant exchange and interaction with ocean water or marine embayment (estuary, tidal flat, tidal marsh, or eel-grass meadow) or 2) are often separated from ocean water exchange (coastal lagoon; CDFW Wildlife Habitat Relationships 2002). The latter situation is present in the City where Lacustrine and Riverine habitats in the western part of the City are often separated from Upper Newport Bay waters that occur west of State Route 73 outside the City limits. This same area in the City also supports Lacustrine and Riverine habitats. See above for descriptions of those habitats.

Valley Foothill Riparian

Valley Foothill Riparian habitats are found in valleys generally associated with low velocity water flow, flood plains, and gentle topography (Cheatham and Haller 1975). Some dominant species in the canopy layer are cottonwood (*Populus* spp.), California sycamore (*Platanus racemosa*), and oak (*Quercus* spp). Typical understory shrub layer plants include species such as wild grape (*Vitis girdiana*), wild rose (*Rosa californica*), California blackberry (*Rubus ursinus*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), poison oak (*Toxicodendron diversilobum*), and willows (*Salix* spp.). The herbaceous layer consists of species such as sedges, rushes, grasses (CDFW Wildlife Habitat Relationships undated).

Eucalyptus

Eucalyptus an introduced genus, whose tree species have been planted typically for wind blocking, ornamental, and hardwood production purposes. If sufficient moisture is available, this genus becomes naturalized and is able to reproduce and expand its areal coverage. Eucalyptus occurs in the City in naturalized patches, landscaping, and windrows.

Fresh Emergent Wetland

Fresh Emergent Wetlands are flooded frequently and are characterized by dominant vegetation generally consisting of perennial monocots to 6.6 feet tall (Cheatham and Haller 1975, Cowardin et al. 1979). Characteristic species on the upper margins of the habitat include those such as sedges and rushes, and on more alkali sites, saltgrass (*Distichlis* sp.). On wetter sites, potential dominant species include cattail (*Typha* spp.) and bulrushes (*Scirpus* spp.; CDFW Wildlife Habitat Relationships undated).

Saline Emergent Wetland

Saline Emergent Wetland occurs above intertidal sand and mud flats (Küchler 1977) and below upland communities not subject to tidal action (Macdonald 1977). It is characterized as salt or brackish marsh with characteristic species such as cordgrass (*Spartina* spp.), pickleweed and glasswort (*Salicornia* spp.), bulrushes, and carex (*Carex* spp.).

Orchard, Vineyard, Evergreen Orchard, Irrigated Row and Field Crops

Orchards, vineyards, and row crops are land uses primarily for the production of food and fiber. On aerial imagery, the chief indications of agricultural activity are distinctive geometric field and road patterns on the landscape and the traces produced by mechanized equipment. The number of building complexes is smaller and the density of the road and highway network is much lower among these land uses than in Urban areas (see Urban below).

Urban

Urban lands typically support little to no native vegetation and are characterized by the presence of man-made structures such as buildings, paved roads, parking lots, parks, and residential areas that are either unvegetated or are dominated by exotic, ornamental plant species.

3.2.4 Flora

Despite the urbanization of most of the City, there are still areas within the City that provide open space and relatively untouched habitats that support native plant species.

The City also supports many agricultural lands and developed areas. While these lands typically support planted crops and orchards as well as ornamental species, respectively, they likely support both native and non-native plant species. Native plant species that can tolerate disturbance, and even thrive in disturbed areas, probably can be found growing alongside of the planted crops or as the understory within the orchards.

Some of the non-native plant species are likely invasive. These species likely have replaced native habitats that historically occurred because they produce larger quantities of seeds than the native plant species, have aggressive root systems that spread long distances and can steal resources (e.g., water, minerals) from native plant species, have dense root systems that smother the root systems of surrounding vegetation, and/or produce chemicals that inhibit the growth of other plant species around them. Invasive species pose serious environmental threats because they can invade healthy, native ecosystems and degrade the quality of the habitat so that it no longer provides the functions and values of the native ecosystems that occurred there historically.

3.2.5 Fauna

A variety of resident and migratory wildlife species occur within the City. Many of the resident species have adapted to survival within the interface of the urban lands and adjacent open space, parks, and preserves. The City provides habitat for both common and special status species including invertebrates, amphibians, reptiles, birds, and mammals.

Birds are the most numerous type of readily observable wildlife that occur within the City. Many common bird species can be seen such as mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), and lesser goldfinch (*Spinus psaltria*). Common small and large mammals are also likely present in the City. Some of these species include woodrats (*Neotoma* spp.), mice (e.g., *Peromyscus* and *Chaetodipus* spp.), coyote (*Canis latrans*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and striped skunk (*Mephitis mephitis*). Both the bobcat (*Lynx rufus*) and mountain lion (*Puma concolor*) have also been reported in the City.

3.3 SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources include sensitive vegetation communities, special status plant species, special status wildlife species, wildlife movement corridors, and wetland/riparian resources. In general, the principal reason that a species, subspecies, or variety is considered sensitive is the documented or perceived decline or limitation of its population size or geographical extent and/or distribution resulting in most cases from habitat loss. Wildlife movement corridors or linkages also are considered sensitive by local, State, and federal resource and conservation agencies because these corridors allow wildlife to move between adjoining open space areas that are becoming increasingly isolated as open space becomes increasingly fragmented from urbanization, rugged terrain, or changes in vegetation (Beier and Loe 1992). In addition, wetland and riparian resources are considered sensitive because of their limited distribution and high wildlife value.

Many sensitive biological resources are known to occur or have the potential to occur within the City based on historical data for the region identified through a query of the CNDDB and USFWS database, the National Hydrography Dataset, and/or the presence of potentially suitable habitat within the City. The following section describes these sensitive biological resources.

3.3.1 Sensitive Vegetation Communities

Sensitive vegetation communities are vegetation assemblages, associations, or subassociations that have cumulative losses throughout the region, have relatively limited distribution, support or potentially support sensitive plant or wildlife species, or have particular value to other wildlife. Typically, sensitive vegetation communities are considered sensitive whether or not they have been disturbed. Sensitive vegetation communities are regulated by various local, State, and federal resource agencies.

The CNDDB provides an inventory of natural communities that are considered sensitive by State and federal resource agencies, academic institutions, and conservation groups such as the California Native Plant Society (CNPS). Determination of the level of sensitivity is based on the Nature Conservancy Heritage Program Status Ranks that rank both species and plant communities on a global and statewide basis according to the number and size of remaining occurrences as well as recognized threats such as proposed development, habitat degradation, and invasion by non-native species.

Based on a California Sensitive Natural Communities (CDFW 2018) search, ten sensitive vegetation communities were identified within the City and are listed below. According to the CDFW (2018), natural communities with ranks of 1 to 3, or Y (for alliances), are considered sensitive. Since the specific species composition and dominance in each of the communities in the City is not known for this report, the sensitivity for the alliance was used.

Vegetation communities that are wetland and/or riparian resources are also considered sensitive biological resources and are regulated by the Corps, CDFW, and/or RWQCB pursuant to several federal and State regulations. Wetland and/or riparian resources are also identified in the list below. See Section 3.3.5 of this report for more information about wetland and riparian resources.

- Perennial Grassland (Y)
- Annual/Perennial Grassland (Y; annual grassland is not sensitive, but perennial is)
- Coastal Oak Woodland (Y)
- Coastal Scrub (Y)
- Lacustrine (Wetland/Riparian)
- Riverine (Wetland/Riparian)
- Riverine (Wetland/Riparian), Barren (the barren portion of this community is not sensitive)
- Estuarine, Lacustrine, Riverine (Wetland/Riparian)
- Freshwater Emergent Wetland (Y, Wetland)
- Saline Emergent Wetland (Y, Wetland)

3.3.2 Special Status Plant Species

For purposes of this report, special status plant species include those that are:

- listed or proposed for listing by federal or State agencies as threatened or endangered;
- on List 1B (considered endangered throughout its range) or List 2 (considered endangered in California but more common elsewhere) of the CNPS' *Inventory of Rare and Endangered Vascular Plants of California*;
- considered rare, endangered, or threatened by the CDFW or other local conservation organizations or specialists; and/or
- covered under the NCCP/HCP

Noteworthy plant species are considered to be those on:

- List 3 (more information about the plant distribution and rarity needed) and
- List 4 (plants of limited distribution) of the CNPS *Inventory*.

The CNPS is a Statewide resource conservation organization that has developed an inventory of California's sensitive plant species. The CNPS listing is sanctioned by the CDFW and essentially serves as an early warning list of potential candidate species for threatened or endangered status.

According to USFWS, a federal endangered species is defined as a species facing extinction throughout all or a significant portion of its geographic range, and a federally threatened species is defined as a species that is likely to become endangered within the foreseeable future throughout all or a significant part of its range. CDFW defines an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy, a threatened species as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management, and a rare species as one present in such small numbers throughout its range that it may become endangered if its present environment worsens.

Species that are federal- or State-listed threatened or endangered species; are designated as CNPS List 1B or 2 species; and/or are considered rare, endangered, or threatened by the CDFW and are afforded a degree of protection that entails a permitting process including specific mitigation measures to compensate for impacts to the species. Species that are proposed to be listed by the USFWS are treated similarly to listed species by that agency. Recommendations of the USFWS, however, are advisory rather than mandatory in the case of proposed species. Although plant species that are classified as List 3 or 4 species by CNPS are not provided legal protection, this designation is used to identify declining plant species that are considered sensitive by the CNPS but not considered threatened or endangered.

There are 33 special status plant species known to occur historically from the region of the City. Ten of these species have been reported within the City or just outside the City limits (Figure 4). All 33 special status plant species are summarized in Table 2. No critical habitat has been designated by the USFWS within the City for any plant species.

Table 2
SPECIAL STATUS PLANT SPECIES REPORTED WITHIN THE CITY OF IRVINE OR THE REGION

Scientific Name	Common Name	Status	Habitat Description	Occurrence Info
Aphanisma blitoides	Aphanisma	List 1B.2	Coastal bluffs	May occur within the City because potential habitat may be present.
Astragalus brauntonii	Braunton's milk-vetch	FE List 1B.1	Chaparral, coastal scrub, grassland—recent burns or disturbed areas	May occur within the City because potential habitat may be present.
Atriplex coulteri	Coulter's saltbush	List 1B.2	Grassland, sage scrub, eroded coastal terrace	Reported in the City (Figure 4).
Atriplex serenana var. *davidsonii*	Davidson's saltscale	List 1B.2	Alkaline coastal bluff scrub, coastal scrub	Reported in the City (Figure 4).
Atriplex pacifica	South Coast saltscale	List 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, playas	May occur within the City because suitable habitat may be present.
Calochortus catalinae	Catalina mariposa lily	List 4.2 Covered	Chaparral, cismontane woodland, coastal scrub, grassland	May occur within the City because suitable habitat may be present.
Calochortus weedii var. *intermedius*	Intermediate mariposa-lily	List 1B.2 Covered	Rocky, calcareous chaparral, coastal scrub, grassland.	Reported in the City (Figure 4).
Camissoniopsis lewisii	Lewis' evening-primrose	List 3.0	Sand bars with salt marsh	May occur within the City because suitable habitat may be present.
Chloropyron maritimum ssp. *maritimum*	Salt marsh bird's-beak	FE SE List 1B.2	Salt marsh	May occur within the City because suitable habitat may be present.
Chorizanthe polygonoides var. *longispina*	Long-spined spineflower	List 1B.2	Chaparral, coastal scrub, meadows and seeps, grassland, vernal pools—often with clay soils	May occur within the City because suitable habitat may be present.
Cistanthe maritima	Seaside calandrinia	List 4.2	Sandy coastal bluff scrub, coastal scrub, grassland	May occur within the City because suitable habitat may be present.
Convolvulus simulans	Small-flowered morning glory	List 4.2	Grassland with clay soil	May occur within the City because suitable habitat may be present.
Deinandra paniculata	Paniculate tarplant	List 4.2	Coastal scrub, grassland vernal pools	May occur within the City because suitable habitat may be present.

Table 2
SPECIAL STATUS PLANT SPECIES REPORTED WITHIN THE CITY OF IRVINE OR THE REGION

Scientific Name	Common Name	Status	Habitat Description	Occurrence Info
Dichondra occidentalis	Western dichondra	List 4.2 Covered	Chaparral, cismontane woodland, coastal scrub, grassland	May occur within the City because suitable habitat may be present.
Dudleya multicaulis	Many-stemmed dudleya	List 1B.2	Coastal scrub, chaparral, grassland—often with clay soil	Reported in the City (Figure 4).
Eleocharis parvula	Small spike-rush	List 4.3	Marshes and swamps	May occur within the City because suitable habitat may be present.
Centromadia parryi ssp. *australis*	Southern tarplant	List 1B.1	Margins of marshes and swamps, mesic grassland, vernal pools	Reported in the City (Figure 4).
Hordeum intercedens	Vernal barley	List 3.2	Coastal dunes, coastal scrub, grassland, vernal pools	May occur within the City because suitable habitat may be present.
Juncus acutus ssp. *leopoldii*	Southwestern spiny rush	List 4.2	Mesic coastal dunes, meadows and (alkaline) seeps, coastal salt marshes and swamps	May occur within the City because suitable habitat may be present.
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	List 1B.1	Coastal salt marshes and swamps, playas, vernal pools	May occur within the City because suitable habitat may be present, and it was reported just outside the City limits (Figure 4).
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	List 4.3	Chaparral, coastal scrub	Reported in the City (Figure 4).
Lycium californicum	California box-thorn	List 4.2	Coastal bluff scrub, coastal scrub	May occur within the City because suitable habitat may be present.
Malacothrix saxatalis var. *saxatalis*	Cliff malacothrix	List 4.2	Coastal bluff scrub, coastal scrub	May occur within the City because suitable habitat may be present.
Microseris douglasii ssp. *platycarpha*	Small-flowered microseris	List 4.2	Clay soils in cismontane woodland, coastal scrub, grassland, vernal pools	May occur within the City because suitable habitat may be present.
Nama stenocarpa	Mud nama	List 2B.2	Marshes and swamps (lake margins, riverbanks)	Reported in the City (Figure 4).

Table 2
SPECIAL STATUS PLANT SPECIES REPORTED WITHIN THE CITY OF IRVINE OR THE REGION

Scientific Name	Common Name	Status	Habitat Description	Occurrence Info
Navarretia prostrata	Prostrate vernal pool navarretia	List 1B.1	Mesic coastal scrub, meadows and seeps, grassland, vernal pools	May occur within the City because suitable habitat may be present.
Nemacaulis denudata var. *denudata*	Coast woolly-heads	List 1B.2	Coastal dunes	Not likely to occur in the City due to lack of potential habitat.
Pentachaeta aurea ssp. *allenii*	Allen's pentachaeta	List 1B.1	Coastal scrub and grassland	Reported in the City (Figure 4).
Romneya coulterii	Coulter's matilija poppy	List 4.2 Covered	Chaparral, coastal scrub—often in burned areas	May occur within the City because suitable habitat may be present.
Senecio aphanactis	Chaparral ragwort	List 2B.2	Chaparral, cismontane woodland, coastal scrub	Reported in the City (Figure 4).
Sidalcea neomexicana	Salt spring checkerbloom	List 2B.2	Mesic chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, playas	May occur within the City because suitable habitat may be present.
Suaeda esteroa	Estuary seablite	List 1B.2	Coastal salt marshes and swamps	May occur within the City because suitable habitat may be present.
Symphyotrichum defoliatum	San Bernardino aster	List 1B.2	Near ditches, streams, springs--cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, vernally mesic grassland	May occur within the City because potential habitat may be present.

Status: FE=Federal endangered; SE=State endangered; Covered = Covered under the NCCP/HCP

City Boundary

USFWS Critical Habitat

coastal California gnatcatcher

Riverside fairy shrimp

Sensitive Plant and Animal Species

Plants

- Allen's pentachaeta
- chaparral ragwort
- Coulter's goldfields
- Coulter's saltbush
- Davidson's saltscale
- intermediate mariposa-lily
- many-stemmed dudleya
- mud nama
- southern tarplant
- Robinson's pepper-grass

Crustaceans

- Riverside fairy shrimp

Amphibians

- Coast Range newt
- western spadefoot

Mammals

- San Diego desert woodrat
- western mastiff bat

Reptiles

- coast horned lizard
- coastal whiptail
- orange-throated whiptail
- red-diamond rattlesnake
- western pond turtle

Birds

- American peregrine falcon
- burrowing owl
- California horned lark
- coastal cactus wren
- coastal California gnatcatcher
- Cooper's hawk
- ferruginous hawk
- grasshopper sparrow
- least Bell's vireo
- light-footed Ridgway's rail
- southern California rufous-crowned sparrow
- tricolored blackbird
- white-tailed kite
- yellow-breasted chat

Source: CDFW CNDDB; USFWS CFWO; USDA NAIP 2016; Esri

N W E S

0 3,000 6,000 Feet

ALDEN ENVIRONMENTAL, INC

Figure 4

Special Status Plant and Wildlife Species and Critical Habitat

BIOLOGICAL TECHNICAL REPORT
CITY OF IRVINE
GENERAL PLAN UPDATE

3.3.3 Special Status Wildlife Species

For purposes of this report, special status wildlife species include those that are 1) listed or proposed for listing as threatened or endangered by the USFWS or the CDFW; 2) designated as Birds of Conservation Concern by the USFWS; 3) designated as California Fully Protected or California Species of Special Concern by the CDFW; and/or 4) covered under the NCCP/HCP. In addition, raptors (birds of prey) and active raptor nests are protected by the California Fish and Game Code 3503.5, which states that it is "unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird" unless authorized. The federal MBTA, which restricts the killing, taking, collecting, selling, or purchasing of native bird species or their parts, nests, or eggs, also provides legal protection for almost all breeding bird species occurring in the U.S. The MBTA is supplemented by the BGEPA, which provides protection for both the bald eagle and the golden eagle by prohibiting the "take" of either of these species, including their parts, nests, or eggs. Noteworthy wildlife species are those given the informal designation of California Species of Concern by the CDFW. This designation applies to animals not listed under FESA or CESA but which nonetheless (1) are declining at a rate that could result in listing or (2) historically occurred in low numbers and known threats to their persistence currently exist.

According to the USFWS, a federal endangered species is defined as a species facing extinction throughout all or a significant portion of its geographic range, and a federal threatened species is defined as a species that is likely to become endangered within the foreseeable future throughout all or a significant part of its range. The CDFW defines an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy, a threatened species as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management, a California Fully Protected species as one that is rare or faces possible extinction, and a California Species of Concern as one that is declining in numbers.

Species that are federal- or State-listed threatened or endangered are afforded a degree of protection that entails a permitting process, including specific mitigation measures to compensate for impacts to the species. Species that are proposed to be listed by the USFWS are treated similarly to listed species by that agency. Recommendations of the USFWS, however, are advisory rather than mandatory in the case of proposed species. As regulated by the CDFW, Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Wildlife species classified as California Species of Concern or Watch List by the CDFW are not typically provided legal protection; however, there are exceptions for some species such as the burrowing owl (*Athene cunicularia*). Similarly, Birds of Conservation Concern refers to non-listed subspecies or populations of federal threatened or endangered species.

There are 59 special status wildlife species known to occur historically from the region. Twenty-four of these species have been reported within the City or just outside the City limits (Figure 4). All 59 special status wildlife species are summarized in Table 3. Critical habitat has been designated by the USFWS for two species within the City: Riverside fairy shrimp (*Streptocephalus woottoni*) and coastal California gnatcatcher (Figure 4).

Table 3
SPECIAL STATUS WILDLIFE SPECIES REPORTED WITHIN THE CITY OF IRVINE OR THE REGION

Scientific Name	Common Name	Status	Habitat Description	Occurrence Info
Invertebrates				
Branchinecta sandiegonensis	San Diego fairy shrimp	FE Covered	Vernal pools or other ephemeral basins in coastal southern California south to extreme northwestern Baja California, Mexico	May occur within the City because suitable habitat may be present.
Streptochephalus woottoni	Riverside fairy shrimp	FE Covered	Restricted to a few vernal pools in southwestern Riverside, Orange, and San Diego counties	Reported in the City, and critical habitat has been designated in the City (Figure 4).
Fish				
Eucyclogobius newberryi	Tidewater goby	FE CSC	Shallow brackish lagoons and lower stream reaches	May occur within the City because potential habitat may be present.
Amphibians				
Aneides lugubris	Arboreal salamander	Covered	Moist places in a variety of habitats from coastal dunes to woodlands	May occur within the City because suitable habitat may be present.
Anaxyrus californicus	Arroyo toad	FE CSC Covered	Breeds in shallow pools along stream edges with sand/gravel flats between March and June. Adults use sage scrub, mixed chaparral, oak woodland habitats up to within one mile of breeding sites.	May occur within the City because suitable habitat may be present.
Batrachoseps nigriventris	Blackbelly slender salamander	Covered	Moist places, mainly in woodlands, but also found in grasslands and riparian habitats	May occur within the City because suitable habitat may be present.
Spea hammondii	Western spadefoot	CSC Covered	Washes, river floodplains, alluvial fans, playas, alkali flats, temporary ponds, vernal pools in mixed woodlands, grasslands, coastal sage scrub, and chaparral. Surface activity October to April. Oviposition late February to May in temporal pools and slow-moving sections of streams	Reported in the City (Figure 4).
Taricha torosa	Coast Range newt	CSC	In southern California, habitats include drier chaparral, oak woodland, and grasslands	Reported just outside the City limits (Figure 4).
Reptiles				
Phrynosoma blainvillii	Coast horned lizard	CSC Covered	Scrubland, grassland, coniferous woods, and broadleaf woodlands, especially in areas with sandy soils, scattered shrubs, and ant colonies, such as along the edges of arroyo bottoms or dirt roads.	Reported in the City (Figure 4).
Aspidoscelis hyperythra	Orange-throated whiptail	WL Covered	Open coastal sage scrub, chaparral, and streamside growth with loose sandy soils, revegetation sites.	Reported in the City (Figure 4).

Table 3
SPECIAL STATUS WILDLIFE SPECIES REPORTED WITHIN THE CITY OF IRVINE OR THE REGION

Scientific Name	Common Name	Status	Habitat Description	Occurrence Info
Aspidoscelis tigris stejnegeri	Coastal western whiptail	CSC Covered	Coastal sage scrub, chaparral, and wash habitats	Reported in the City (Figure 4).
Anniella stebbinsi	Southern California legless lizard	CSC	Found in leaf litter and loose soil on beaches and in coastal scrub, chaparral, and open riparian habitats. Sandy washes and beach dunes are used for burrowing, while logs and leaf litter are used for cover and feeding.	May occur within the City because suitable habitat may be present.
Charina trivirgata	rosy boa	Covered	Rocky areas in coastal sage scrub and chaparral	May occur within the City because potential habitat may be present.
Crotalus ruber	red-diamond rattlesnake	CSC Covered	Arid scrub (including coastal sage scrub), chaparral, woodlands, and cultivated areas, often with large rocks or boulders	Reported in the City (Figure 4).
Diadophis punctatus modestus	San Bernardino ringneck snake	Covered	Semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains	May not occur in the City due to limited or lacking potential habitat.
Emys marmorata	Western pond turtle	CSC	Slow-water aquatic habitats with available basking sites (e.g., submerged logs, open mud banks)	Reported in the City (Figure 4).
Plestiodon skiltonianus interparietalis	Coronado skink	WL Covered	Occurs in variety of mesic habitats including coastal sage, chaparral, oak woodlands, pinon-juniper, and riparian woodlands to pine forests	May occur within the City because suitable habitat may be present.
Salvadora hexalepis virgultea	Coast patch-nosed snake	CSC	Semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains	May occur within the City because potential habitat may be present.
Thamnophis hammondii	Two-striped garter snake	CSC	Permanent fresh water, inhabiting streams, ponds, vernal pools. Occupies adjacent coastal sage scrub and grasslands during the winter.	May occur within the City because suitable habitat may be present.
Birds				
Accipiter cooperii	Cooper's hawk	WL	Occurs in various woodland habitats, including riparian	Reported in the City (Figure 4).
Accipiter striatus	Sharp-shinned hawk	WL Covered	Woodland areas and open lowlands	May occur within the City because potential habitat may be present.
Agelaius tricolor	Tricolored blackbird	BCC CSC, (SE Candidate)	Cattail or tule marshes; forages in fields, farms. Breeds in large freshwater marshes in dense stands of cattails or bulrushes. At all seasons (including when breeding), does most of its foraging in open habitats such as farm fields, pastures, cattle pens, and large lawns.	Reported in the City (Figure 4).

Table 3
SPECIAL STATUS WILDLIFE SPECIES REPORTED WITHIN THE CITY OF IRVINE OR THE REGION

Scientific Name	Common Name	Status	Habitat Description	Occurrence Info
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	WL Covered	Coastal sage scrub, coastal bluff scrub, low-growing chaparral	Reported in the City (Figure 4).
Ammodramus savannarum	Grasshopper sparrow	CSC	Grasslands, prairies, hayfields, and open pastures with little to no scrub cover and often with some bare ground	Reported in the City (Figure 4).
Aquila chrysaetos	golden eagle	CFP, WL Covered	Requires vast foraging areas in grassland, broken chaparral, or sage scrub. Nests on cliffs and boulders.	May not occur within the City because of limited potential habitat.
Athene cunicularia	Burrowing owl	BCC CSC	Grassland, agricultural land, coastal dunes	Reported in the City (Figure 4).
Buteo lineatus	Red-shouldered hawk	Covered	Riparian woodland	May occur within the City because suitable habitat may be present.
Buteo regalis	Ferruginous hawk	BCC WL	Winter resident of grassland and agricultural areas in southwestern California	Reported in the City (Figure 4).
Campylorhynchus brunneicapillus sandiegensis (San Diego and Orange counties only)	Coastal cactus wren	BCC CSC Covered	Coastal sage scrub and chaparral plant communities with substantial cacti (*Opuntia* spp.) stands	Reported in the City (Figure 4).
Charadrius alexandrinus nivosus	Western snowy plover	FT, BCC CSC	Breeds primarily on coastal beaches from southern Washington to southern Baja California, Mexico. The Pacific coast population breeds above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries.	May occur within the City because potential habitat may be present.
Circus hudsonius	Northern harrier	CSC Covered	Open habitats, such as grasslands and fields, as well as marshes.	May occur within the City because suitable habitat may be present.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT, BCC SE	Extensive riparian woodlands	May not occur within the City because of limited or lacking potential habitat.
Elanus leucurus	white-tailed kite	CFP	Nests in riparian woodland, oaks, sycamores and forages in open, grassy areas	Reported in the City (Figure 4).

Table 3
SPECIAL STATUS WILDLIFE SPECIES REPORTED WITHIN THE CITY OF IRVINE OR THE REGION

Scientific Name	Common Name	Status	Habitat Description	Occurrence Info
Empidonax traillii extimus	southwestern willow flycatcher	FE SE Covered	Nests in extensive willow-dominated riparian forests and woodlands, occasionally oak woodlands	May not occur within the City because of limited or lacking potential habitat.
Eremophila alpestris actia	California horned lark		Short vegetation or bare ground and low-growing or fallow agricultural fields	Reported in the City (Figure 4).
Falco peregrinus anatum	American peregrine falcon	BCC CFP Covered	Nests in open landscapes with cliffs or tall man-made structures. Found along coastlines, shorelines, etc. where shorebird or rock pigeon prey occurs.	Reported just outside the City limits (Figure 4).
Icteria virens	Yellow-breasted chat	CSC	Dense riparian woodland	Reported in the City (Figure 4).
Ixobrychus exilis	Least bittern	BCC CSC	Dense marshes	May occur within the City because suitable habitat may be present.
Lanius ludovicianus	loggerhead shrike	BCC CSC	Open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree woodland habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches	May occur within the City because potential habitat may be present.
Laterallus jamaicensis coturniculus	California black rail	BCC ST, CFP	Salt marshes, freshwater marshes, and wet meadows	May occur within the City because suitable habitat may be present.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	SE	Coastal salt marsh	May occur within the City because suitable habitat may be present.
Polioptila californica californica	coastal California gnatcatcher	FT CSC Covered	Coastal sage scrub, maritime succulent scrub.	Reported in the City (Figure 4).
Pelecanus erythrorhynchos	American white pelican	CSC	Breeds mainly on isolated islands in freshwater lakes or on ephemeral islands in shallow wetlands. Forages in marshes, along lake or river edges, and in wetlands.	May occur within the City because potential habitat may be present.
Pelecanus occidentalis californicus	California brown pelican	CFP	Nests from the Channel Islands along the Baja California coast and in the Gulf of California to coastal southern Mexico. Builds nests of sticks on the ground, typically on islands or offshore rocks. Between breeding seasons, wanders along the west coast.	May not occur within the City because of limited or lacking potential habitat.

Table 3
SPECIAL STATUS WILDLIFE SPECIES REPORTED WITHIN THE CITY OF IRVINE OR THE REGION

Scientific Name	Common Name	Status	Habitat Description	Occurrence Info
Phalacrocorax auritus	Double-crested cormorant	WL	Lakes and ponds	May occur within the City because potential habitat may be present.
Plegadis chihi	White-faced ibis	WL	Freshwater wetlands and marshes but also may feed in flooded meadows, agricultural fields, and estuarine wetlands.	May occur within the City because potential habitat may be present.
Rallus obsoletus levipes	Light-footed Ridgway's rail	FE SE, CFP	Salt marshes and lagoons	Reported in the City (Figure 4).
Rynchops niger	Black skimmer	CSC	Mostly ocean beaches, tidewater. Favors coastal waters protected from open surf such as lagoons, estuaries, inlets, and sheltered bays. Occurs locally on inland lakes	May occur within the City because potential habitat may be present.
Setophaga petechia	yellow warbler	BCC CSC	Well-developed riparian habitats, often with mature willows, usually in close proximity to water along streams and meadows	May occur within the City because suitable habitat may be present.
Sternula antillarum browni	California least tern	FE SE, CFP	Nests are situated on barren to sparsely vegetated places near water, normally on sandy or gravelly substrates, and may appear along marine or estuarine shores in areas free from humans or predators. Wintering locations are unknown.	May not occur within the City because of limited or lacking potential habitat.
Vireo bellii pusillus	Least Bell's vireo	FE SE Covered	Dense, stratified canopy within willow-dominated woodland or scrub, *Baccharis* scrub, mixed oak/willow woodland, mesquite woodland, and elderberry scrub in riparian habitat.	Reported in the City (Figure 4).
Mammals				
Antrozous pallidus	pallid bat	CSC	Open desert scrub, grasslands, shrub lands, woodlands, and forests. Roosts in rock crevices, caves, mines, tree hollows, and buildings.	May occur within the City because suitable habitat may be present.
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	CSC	Sparse, disturbed coastal sage scrub or grasslands with sandy soils.	May occur within the City because suitable habitat may be present.
Eumops perotis californicus	western mastiff bat	CSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, trees, and tunnels, and travels widely when foraging.	Reported in the City (Figure 4).
Lepus californicus bennettii	San Diego black-tailed jackrabbit	CSC	Open areas of scrub, grasslands, agricultural fields with ample grasses and forbs.	May occur within the City because suitable habitat may be present.

Table 3
SPECIAL STATUS WILDLIFE SPECIES REPORTED WITHIN THE CITY OF IRVINE OR THE REGION

Scientific Name	Common Name	Status	Habitat Description	Occurrence Info
Neotoma lepida intermedia	San Diego desert woodrat	CSC Covered	Coastal sage scrub and chaparral. Prefers rock outcrops.	Reported in the City (Figure 4).
Perognathus longimembris pacificus	Pacific pocket mouse	FE CSC	Fine-grained, sandy or gravelly substrates in coastal strand, coastal dunes, river alluvium, and coastal sage scrub growing on marine terraces. Nearly all historic observations of are within 4 km (approximately 2.48 miles) of the Pacific coast, with a few as far as 6 km (approximately 3.72 miles). Currently known only from Dana Point Headlands in Orange County, California and three locations on Marine Corps Base Camp Pendleton in San Diego County (Spencer 2005).	May not occur within the City because it is largely too far inland.
Sorex ornatus salicornicus	Southern California saltmarsh shrew	CSC	Salt marsh	May occur within the City because suitable habitat may be present.
Taxidea taxus	American badger	CSC	Drier, open stages of shrub steppes, agricultural fields, open woodland forests, and large grass and sagebrush meadows and valleys with friable soils.	May occur within the City because suitable habitat may be present.

Status: FE=Federal endangered; FT=Federal threatened; BCC=Birds of Conservation Concern; SE=State endangered; ST=State threatened; CFP=California Fully Protected; CSC=California Species of Special Concern; WL=CDFW Watch List; Covered = Covered under the NCCP/HCP

3.3.4 Wildlife Movement Corridors

Wildlife corridors are essential to maintain populations of healthy and genetically diverse plant and wildlife species. At a minimum, wildlife corridors promote colonization of habitat and genetic variability for both plant and wildlife species by connecting fragments of habitat that are separated by otherwise foreign or inhospitable habitats. Because the isolation of plant and wildlife populations can have many harmful effects on local and regional species' populations and may contribute significantly to local species extinctions, wildlife corridors are important to sustain individual species distributions within these habitat fragments. Studies have concluded that many wildlife species would not likely persist in these habitat fragments over time because isolation through fragmentation would prohibit the infusion of new individuals and genetic information into the population (Harris and Gallagher 1989). While the debate over the value of corridors has been extensive (Noss 1987, Beier and Loe 1992, Beier and Noss 1998, Haddad et al. 2002, Beier and Noss 2000), most leading wildlife corridor biologists agree that, if corridors are used in appropriate situations and designed properly, they can be useful tools in conservation.

Wildlife corridors are considered sensitive by local, State, and federal resource and conservation agencies because these corridors allow wildlife to move between adjoining open space areas that are becoming increasingly isolated as open space becomes fragmented from urbanization, rugged terrain, and/or changes in vegetation (Beier and Loe 1992). In southern California, habitat fragmentation is one of the main concerns for the maintenance of healthy wildlife populations because natural areas are often scarce and maintaining connectivity between these habitats is perhaps one of the best feasible options for preventing localized extinctions and enhancing biodiversity (Penrod et al. 2001). In addition, roadway mortality must be considered when evaluating the importance of maintaining habitat connectivity and providing well-designed wildlife crossings (e.g., over/underpasses). If animals are inclined to move between habitat patches, a narrow road or even a wider highway isn't an absolute barrier. However, if these animals choose to cross these roadways, the likelihood of mortality increases and potentially could depress regional species' populations if these failed crossing attempts become a common occurrence.

As explained in Section 3.1.3 of this report, the Irvine Open Space Initiative created the framework to preserve large, contiguous open space areas for conservation and open space as phased master-planned growth occurred in other areas of the City. The Irvine Open Space Preserve, as it now is known, protects more than 93,000 acres of land from the "mountains to the sea," linking the Cleveland National Forest, San Joaquin Wildlife Sanctuary, Laguna Coast Wilderness Park, and other resources.

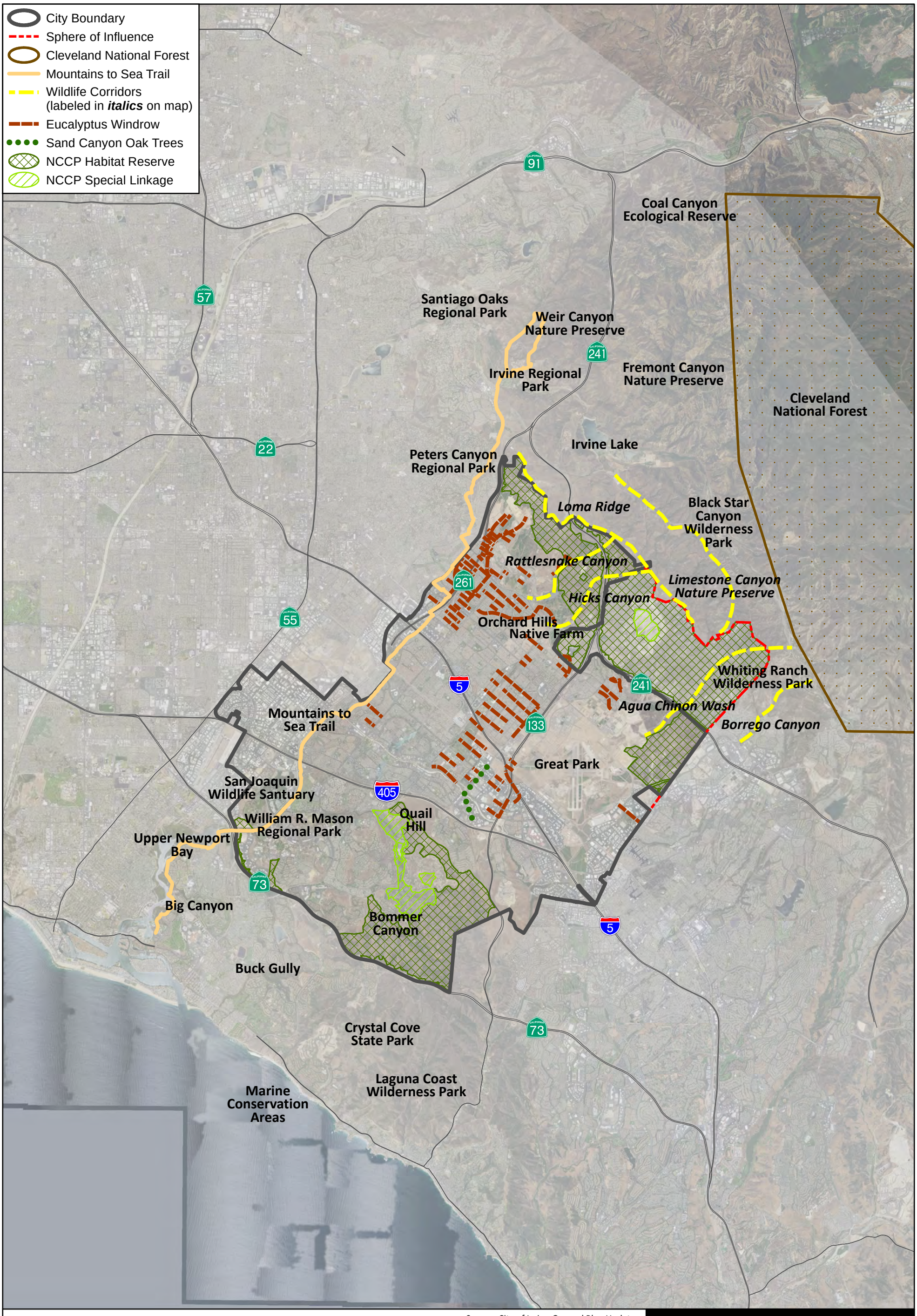
The City has committed to protect and manage the Irvine Open Space Preserve consistent with the NCCP. Of the NCCP/HCP acres in Irvine, 10,587 are designated for the NCCP habitat reserve system, and 813 acres are non-reserve lands called special linkages. The special linkages contain biological value that enhance connectivity between elements of the larger reserve system. The City's portion of the NCCP habitat reserve system and the NCCP special linkages in the City are shown on Figure 5.

Irvine has several wildlife corridors—Hicks Canyon, Rattlesnake Canyon, Loma Ridge, Limestone Canyon, and upper Borrego Canyon form wildlife corridors that stretch to the Cleveland National Forest. Wildlife corridors are also preserved along the Eastern Transportation Corridor at Agua Chinon and the SR-241/133 interchange (Figure 5).

Historically, a wildlife corridor also connected lands in Irvine's northern sphere (e.g., Santiago Hills) to coastal lands along the Pacific Ocean. In 2013, the Irvine City Council adopted the Irvine Wildlife Corridor Plan, taking a step toward creating a wildlife corridor that would link protected lands in the Laguna Coast to wilderness areas that include the Cleveland National Forest, Whiting Ranch, and Limestone Canyon.

3.3.5 Wetland and Riparian Resources

Wetland and riparian resources within the City are considered sensitive biological resources and are regulated by the Corps, CDFW, and/or RWQCB pursuant to several federal and State regulations. A description of each agency's jurisdiction is provided in this section, and the potential wetland and riparian resources within the City are discussed as well.



Source: City of Irvine General Plan Update; USDA NAIP 2016; Esri

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Figure 5

Biological Resources and NCCP Areas

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United States Army Corps of Engineers Jurisdiction

In accordance with Section 404 of the CWA, the Corps has regulatory authority over the discharge of dredged or fill material into waters of the U.S. (including non-wetland Waters of the U.S. and wetlands). Federal jurisdiction is dependent on a demonstrated nexus between the subject water feature and navigable waters or interstate commerce.

The Corps and EPA define wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions" (Corps 1987 and 2008). To be considered a Corps jurisdictional wetland under Section 404 of the CWA, an area must possess three wetland characteristics: 1) hydrophytic vegetation, 2) hydric soils, and 3) wetland hydrology. The definition of a wetland includes the phrase “under normal circumstances” because there are situations in which the vegetation of a wetland has been removed or altered as a result of recent natural event or human activities (Corps 1987). The terms “atypical situation” and “problem area” are used to describe wetlands that exhibit these conditions. An atypical situation refers to a wetland area in which one or more wetland parameters (vegetation, soil, and/or hydrology) have been sufficiently altered by recent human activities or natural events to preclude the presence of wetland indicators of the parameter (Corps 1987 and 2008). A problem area refers to a wetland area in which wetland indicators of one or more wetland parameters may be periodically lacking due to normal seasonal or annual variations in environmental conditions that result from causes other than human activities or catastrophic natural events (e.g., seasonal wetlands, wetlands on drumlins, prairie potholes, and vegetated flats; Corps 1987 and 2008). Although atypical situations and problem areas may lack one or more wetland parameters, these areas may still be considered wetlands if background information on the previous condition of the area and field observations indicate that the missing wetland criteria were present before the disturbance and would occur at the site under normal circumstances.

The Corps defines non-wetland Waters of the U.S. as drainages, or portions thereof, which have strong hydrology indicators such as the presence of seasonal flows and an ordinary high watermark (OHWM). An OHWM is defined as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (Corps 1987 and 2008). Areas delineated as non-wetland waters of the U.S. may lack hydrophytic vegetation or hydric soil characteristics. Hydrophytic vegetation may be absent for various reasons such as the lack of sufficient water flow to support hydrophytic vegetation or the influence of frequent scouring due to rapid water flow. Hydric soil indicators may be missing for various reasons such as the lack of sufficient water or the presence of steep topography that precludes ponding and prohibits the development of hydric soils. Non-wetland Waters of the U.S. are delineated by the lateral and upstream/downstream extent of the OHWM of the particular drainage or depression.

The Corps developed the Special Area Management Plan for the San Diego Creek Watershed (SAMP; Corps 2008b rev. 2009) with the CDFW to integrate a watershed approach to address anticipated regulated activities and aquatic resource conservation needs. The SAMP process was initiated in 1998 as a coordinated process with local landowner/managers and State and federal agencies to consider known projects and anticipated regulated activities resulting in a watershed approach to issuing CWA permits and SAAs.

The SAMP reflects a front-end analysis of the watershed's aquatic resources and consideration of how regulated activities may affect those resources. The SAMP allows the Corps and CDFW to target staff review and evaluation time towards regulated activities and projects with greater potential to result in adverse impacts to the overall integrity of aquatic resources in the watershed. Conversely, projects and regulated activities with minor impacts that affect low-integrity aquatic resources would undergo modified permitting procedures to improve efficiency. Low-integrity resources are those with low hydrology, water quality, and habitat integrity; little habitat value for threatened and/or endangered species; or low wildlife connectivity value. Regardless of value, the permanent loss of aquatic resources would require compensatory mitigation for unavoidable impacts.

California Department of Fish and Wildlife Jurisdiction

In accordance with Sections 1600 to 1616 of the Fish and Game Code, the CDFW regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. These sections discuss the process by which an individual, government agency, or public utility must notify the CDFW prior to any activity that would substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake. The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW. Following such notification, the CDFW must inform the individual, agency, or utility of the existence of any fish and wildlife resources that may be substantially adversely affected by the activity. The CDFW must also include a proposal called the Streambed Alteration Agreement for measures to protect fish and wildlife resources.

The CDFW exerts jurisdiction over all Waters of the State, such as streams and rivers (measured from bank to bank) and any "riparian" vegetation associated with the waters. Streams and rivers are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. The term "riparian" vegetation refers to vegetation that occurs in and/or adjacent to a watercourse. Typical "riparian" vegetation includes willows, mule fat (*Baccharis salicifolia*), western sycamore (*Platanus racemosa*), Fremont cottonwoods (*Populus fremontii*), cattails, and other vegetation found in moist areas and typically associated with the banks of a stream or lake shoreline. CDFW jurisdictional areas are delineated by the outer edge of riparian vegetation or from the top of one channel bank to the top of the opposite channel bank, whichever is wider. Thus, defining the limits of the CDFW jurisdiction based on riparian habitat will include wetland areas and may include areas that do not meet the Corps criteria for soils and/or hydrology. In addition, the CDFW may take jurisdiction over isolated wetlands and streambeds in cases where the Corps may not. Therefore, the CDFW jurisdiction is typically equal to or greater than the Corps jurisdiction.

The CDFW developed the SAMP with the Corps to integrate a watershed approach to address anticipated regulated activities and aquatic resource conservation needs. See the SAMP discussion under the heading, *United States Army Corps of Engineers* Jurisdiction, above.

Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all Waters of the State and to all Waters of the U.S. as considered jurisdictional by the Corps and CDFW. The RWQCB also regulates isolated wetlands, such as vernal pools, that are not regulated by the Corps. Section 401 of the CWA and the state Porter-Cologne Water Quality Control Act give the RWQCB the authority to regulate any proposed activity that may affect water quality. Water quality certification and/or a Report of Waste Discharge must be based upon a finding that the proposed discharge will comply with water quality standards.

Wetland and Riparian Resources in the City

Potential jurisdictional wetland and riparian resources that occur within the City are based on data from the USGS National Hydrography Dataset (Figure 6) and the most current (2015) vegetation mapping for the City from the Nature Reserve of Orange County (Figure 3). All wetland and riparian resources must be protected according to federal, State, and local regulations. These potential jurisdictional resources in the City include streams/rivers, lakes/ponds, reservoirs, inundation areas, canals/ditches, and associated habitats (coast live oak woodland; estuarine, lacustrine, riverine; fresh emergent wetland; lacustrine; riverine; riverine, barren; saline emergent wetland; and valley foothill riparian). The major wetlands/waterways in the City include San Diego Creek, Peters Canyon Wash, and San Joaquin Wildlife Sanctuary.

San Diego Creek is a 16-mile-long waterway with its headwaters in the City of Laguna Woods that flows into Upper Newport Bay. The increased demand for housing and employment in Orange County has resulted in substantial land use changes from agriculture to urban development within the creek's watershed, especially over the last several decades. Agricultural uses, which began in the 19th century, had previously altered the watershed′s natural conditions and hydrology, including increased runoff in Newport Bay and channelization of San Diego Creek (Corps 2008b rev 2009). According to the City (Storm Drainage Utilities), this waterbody is currently impaired by fecal coliform, indicator bacteria, nutrients, pesticides, sedimentation, selenium, and toxaphene.

Most of the creek has been converted to a concrete flood control channel, but it does provide aquatic and riparian habitats along its course and its tidal estuary near the San Joaquin Wildlife Sanctuary and Upper Newport Bay (Figure 3). Peters Canyon Wash is a tributary of San Diego Creek that is approximately 11.8 miles long, mostly channelized, and flows in a relatively straight course southwest from the Peters Canyon Reservoir near the Orange/Tustin border to its confluence with San Diego Creek near the Irvine Civic Center Plaza (Figure 3). According to the City (Storm Drainage Utilities), this wash is currently impaired by DDT, bacteria, pH, and toxaphene.

The San Joaquin Wildlife Sanctuary is a 300-acre constructed wetland in the floodplain of San Diego Creek just above its outlet to Upper Newport Bay. The site is owned by the Irvine Ranch

Water District; it was used for farmland in the 1950s and 1960s, and (prior to its reconstruction) as a duck hunting range. Original restoration of the wetlands began in 1988 and was completed in 2000. The site serves a dual purpose of removing nitrates from the creek's water and providing bird habitat. The Southern California Wetlands Recovery Project (2019), a partnership of public agencies, scientists, and local communities that work cooperatively to acquire and restore wetlands in coastal Southern California, has a plan to restore and enhance 120 acres of perennial marsh habitat in San Joaquin Marsh.

4.0 EVALUATION OF FUTURE ENVIRONMENTAL OPPORTUNITIES, CONSTRAINTS, AND MITIGATION MEASURES

The City's opportunities to protect the natural environment within the City as the potential development constraints for future projects associated with the natural resources that could potentially occur are discussed in this section.

4.1 OPPORTUNITIES

While much of Irvine's open space has been reserved or designated as special linkages (Figure 5), the potential still exists for the identification and acquisition of additional non-designated open space areas to provide preservation of biological resources, particularly NCCP/HCP-covered species, and active recreation opportunities such as walking, equestrian, or bike trails. The opportunity exists for the City to ensure that allowances are made through General Plan policies to encourage or require proposed development plans to allocate open space areas.

The large area in the City (and sphere of influence), as well as non-reserve areas containing species covered under the NCCP/HCP, will result in limitations on development, though some impact is anticipated under specific permitting and mitigation requirements already in the NCCP/HCP. The disposition and/or suitability of other open space areas remain uncertain; however, the special linkages that are slated for wildlife corridors in the vicinity of the formerly proposed El Toro National Wildlife Sanctuary to the San Joaquin Hills are being addressed by the Irvine Wildlife Corridor Plan (Glenn Lukos Associates, Inc. 2013). This Plan is to establish a wildlife corridor that provides opportunity for movement from Irvine Boulevard to Interstate 5 through the length of the MCAS El Toro base property for NCCP/HCP target species in a manner that allows demographic and genetic exchange between populations or subpopulations.

4.2 CONSTRAINTS AND COMPENSATORY MITIGATION MEASURES

Local, State, and federal agencies regulate sensitive biological resources and require an assessment of their presence or potential presence to be conducted for each proposed project site. These assessments should be conducted for all sensitive vegetation communities and special status species that have the potential to occur within or adjacent to a proposed project site prior to the approval and implementation of that project. Because the information provided in this report is based solely on an analysis of existing literature and historical data for the region, and no surveys were conducted to prepare this report, future development projects will require a more refined evaluation of biological resources.

City Boundary

National Hydrography Dataset (NHD)

- Canal/Ditch
- Coastline
- Connector
- Stream/River
- Underground Conduit
- Canal/Ditch
- Inundation Area
- Sea/Ocean
- Stream/River
- Wash
- Lake/Pond
- Reservoir

Source: USGS National Hydrography Dataset (NHD); Esri

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Figure 6

Hydrology and Water Features

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Sensitive biological resources in the City include, but are probably not limited to, those addressed in this report. The City's environment is not static and may change over time as a result of development, fire, or other factors. In addition, vegetation communities may become sensitive and/or species may become listed in the future. For future proposed development projects, it is the responsibility of each Project Proponent to evaluate the known and potential sensitive biological resources within the proposed project area.

This section provides the City and future Project Proponents with guidelines to evaluate potential project-related impacts and design appropriate avoidance, minimization, and/or mitigation measures to assure impacts are reduced to below a level of significance as defined by CEQA. These measures are not intended to replace requirements outlined in the NCCP/HCP, General Plan, Municipal Code, and the SAMP.

4.2.1 General Measures for Impact Assessments

As part of the project approval process, each future proposed project should include an initial site assessment to determine if sensitive biological resources could be present within and/or adjacent to the proposed development project and whether the project site lies inside the NCCP/HCP Reserve System (including the Irvine Open Space Preserve of the Irvine Open Space Initiative) or Special Linkage Areas or whether it lies outside.

If no sensitive biological resources have a potential to occur within and/or adjacent to the proposed project, the City may approve the proposed project to proceed without further biological resource analyses.

If sensitive biological resources have potential to occur, the following general biological mitigation measures would apply.

Bio-1: Applicants for future development projects shall include a biological resources survey. The survey shall be conducted by a qualified biologist. The biological resources survey shall include, but not be limited to:

- A search of available literature and biological databases, such as CNDDB to determine sensitive biological resources that have been reported from the proposed project vicinity.
- Mapping vegetation communities on the proposed project site.
- A general assessment and mapping of all potential jurisdictional resources (wetlands and riparian habitats).
- Evaluating wildlife movement corridors in the vicinity of the proposed project site.

Bio 2: If the proposed development project site supports vegetation communities that may provide habitat for special status plant or animal species, a focused habitat assessment shall be conducted by a qualified biologist to determine the potential for special status plant and/or animal species to occur within or adjacent to the proposed development project area.

Bio-3: If one or more special status species has the potential to occur within the proposed development project area, focused species surveys shall be conducted to determine the presence/absence of these species to adequately evaluate potential direct and/or indirect impacts to these species.

Bio-4: If construction activities are not initiated immediately after focused surveys have been completed, additional pre-construction special status species surveys may be required to assure impacts are avoided or minimized to the extent feasible. If pre-construction activities are required, a qualified biologist would perform these surveys as required for each special status species that is known to occur or has a potential to occur within or adjacent to the proposed development project area.

Bio-5: The results of the biological survey shall be presented in a biological survey letter report for proposed development projects with no significant impacts, or in a biological technical report for proposed development projects with significant impacts that require mitigation to reduce the impacts to below a level of significance.

Bio-6: If sensitive biological resources are identified within or adjacent to the proposed development project area, the construction limits shall be clearly flagged to ensure impacts to sensitive biological resources are avoided or minimized to the extent feasible. Prior to implementing construction activities, a qualified biologist shall verify that the flagging clearly delineates the construction limits and that sensitive resources to be avoided.

Bio-7: If sensitive biological resources are known to occur within or adjacent to the proposed development project area, a project-specific contractor training program shall be developed and implemented to educate project contractors on the sensitive biological resources within and adjacent to the proposed development project area and measures being implemented to avoid and/or minimize impacts to these species. A qualified biologist shall develop and implement the contractor training program.

Bio-8: If sensitive biological resources are present within or adjacent to the proposed development project area and impacts may occur from implementation of construction activities, a qualified biological monitor may be required during a portion or all of the construction activities to ensure impacts to the sensitive biological resources are avoided or minimized to the extent feasible. The specific biological monitoring requirements shall be evaluated on a project-by-project basis. The qualified biological monitor shall be approved by the City on a project by project basis based on applicable experience with the sensitive biological resources that may be impacted by the proposed development project activities.

Bio-9: If birds that are protected by the MBTA are identified within or adjacent to the proposed development project area, the proposed development project may result in direct or indirect impacts to these species, especially during breeding season. If impacts cannot be avoided, potential impacts during the breeding season may be considered significant depending on the species and the extent of the impact. To ensure that active nests are not impacted, pre-construction general nesting bird surveys shall be conducted within all suitable nesting habitat that may be impacted by active construction during the general avian breeding season (February 1 through August 31). The pre-construction surveys shall be conducted no more than 7 days prior to initiation of construction. If no active avian nests are identified within the proposed development project area or within a 300-foot buffer of the proposed development project area, no further mitigation is necessary. If active nests of avian species protected by the MBTA are detected within the proposed development project area or within a 300-foot buffer of the proposed development project area, construction shall be halted until the young have fledged, until a qualified biologist has determined the nest is

inactive, or until appropriate mitigation measures that respond to the specific situation have been developed and implemented in consultation with the regulatory agencies.

4.2.2 Measures for Impacts to Jurisdictional Areas

Impacts to jurisdictional areas could be considered significant under CEQA depending on the extent of the proposed impact. Survey requirements and mitigation measures for unavoidable impacts to jurisdictional areas resulting from future proposed development projects are discussed below.

Bio-10: If a proposed project has the potential to affect jurisdictional resources, a qualified biologist shall conduct a jurisdictional delineation following the methods outlined in the 1987 Corps Wetland Delineation Manual (Corps 1987) and the Regional Supplement to the Corps Wetland Delineation Manual: Arid West Region (Corps 2008a) to map the extent of wetlands and non-wetland waters, determine jurisdiction, and assess potential impacts. The results of the delineation shall be presented in a wetland delineation letter report and shall be incorporated into the CEQA document(s) required for approval and permitting of the proposed project.

Bio-11: If a proposed project would impact jurisdictional features, permits and authorizations shall be obtained from the Corps, CDFW, and/or RWQCB. The regulatory agency authorization(s) would include impact avoidance and minimization measures as well as mitigation measures for unavoidable impacts. Specific avoidance, minimization, and mitigation measures for impacts to jurisdictional resources shall be determined through discussions with the regulatory agencies during the proposed project permitting process and may include monetary contributions to a mitigation bank or habitat creation, restoration, and/or enhancement.

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APPENDIX D

Paleontological and Cultural Resources Assessment Report for the City of Irvine General Plan Update

cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

PALEONTOLOGICAL AND CULTURAL RESOURCES ASSESSMENT FOR THE CITY OF IRVINE GENERAL PLAN UPDATE, CITY OF IRVINE, ORANGE COUNTY, CALIFORNIA

Prepared for:
City of Irvine

And

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Cogstone Project Number: 5300
Type of Study: Paleontological and Cultural Resources Assessment
USGS 7.5' Quadrangles: Black Star Canyon, El Toro, Laguna Beach, Orange, San Juan Capistrano, Tustin
Area: City boundaries 42,175.58 acres; Sphere of Influence 4,830.83 acres
Keywords: Paleontological and Cultural Resources Assessment, General Plan update, Orange County

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Federal Certifications WOSB, EDWOSB, SDB
State Certifications DBE, WBE, UDBE

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SUMMARY OF FINDINGS

The objective of this study is to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of Irvine (City) to support the update of the City's General Plan. The update will provide long-term policy direction and communicate the vision, values, and goals for the City's physical development and overall quality of life. The City of Irvine 2045 General Plan will serve to identify areas of opportunity and provide options to enhance development in key focus areas of the City.

The City has a complicated paleontological history which began at the age of dinosaurs about 100.5 million years (Ma) ago. The past 100.5 Ma has seen the City transition back and forth several times from marine to terrestrial deposits. A search for paleontological records was completed by the Natural History Museum of Los Angeles County and in the literature. Numerous fossils have been recovered in the City and an updated sensitivity map is provided.

The Vaqueros, Sespe-Vaqueros, Sespe, Monterey, Puente and Capistrano Formations are assigned a high paleontological sensitivity. Formations assigned a moderate sensitivity include the Williams Formation Pleasants Sandstone Member, the Santiago Formation, the Topanga Group, the undifferentiated Puente Formation, and the Pliocene Niguel Formation. A programmatic mitigation measure is recommended.

Cogstone conducted a search of the California Historic Resources Inventory System at the South Central Coastal Information Center on September 24 and 25, 2018. Results of the record search indicate that 647 previous cultural resources studies have been completed within the boundaries of the City. The records search also determined 379 previously recorded cultural resources are located within the City boundaries; over half are prehistoric resources.

Prehistoric sites/Tribal Cultural Resources are most abundant in the San Joaquin Marsh area and San Joaquin Hills, both south of Interstate 405. Sites are also abundant along what were, at the time, permanent water sources such as creeks and springs northeast of Irvine Blvd. Only ten sites are known on the plain between I-405 and Irvine Blvd. On this basis the areas south of I-405 and north of Irvine Blvd. are ranked as highly sensitive and the plain in between as less sensitive. An updated sensitivity map is provided. Three programmatic mitigation measures are recommended.

INTRODUCTION

PURPOSE OF STUDY

The objective of this study is to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of Irvine (City) to support an update of the City's General Plan. The City is located in southern Orange County and covers 42,175.58 acres with an additional Sphere of Influence (SOI) of 4,830.83 acres (Figure 1).

PROJECT LOCATION AND DESCRIPTION

Located in Orange County, the City of Irvine is located approximately two miles inland east of the Pacific Ocean (refer to Figure 1). The City is bounded by Tustin to the north with a small portion bordering Orange County unincorporated land by SR 261, Santa Ana to the northwest, Lake Forest to the East, Laguna Hills and Laguna Woods to the southeast, Costa Mesa to the west, and Newport Beach to the southwest. The City of Irvine is located primarily within the Tustin and El Toro United States Geographical Survey (USGS) 7.5-minute topographic maps but also includes portions of the Black Star Canyon, Laguna Beach, Orange, and San Juan Capistrano USGS 7.5'-minute topographic maps (Table 1).

Table 1. City of Irvine Cadastral Information

USGS 7.5' Topographic Quad(s)	Township	Range	Section(s)
Orange	4S	8W	31
	5S	8W	6, 7
		9W	12
Black Star Canyon	5S	8W	5, 6, 7, 8
Tustin	5S	8W	7, 18, 19, 30, 31
		9W	12, 13, 14, 22, 23, 24, 25, 26, 27, 29, 30, 31, 32, 33, 34, 35, 36
	6S	9W	1, 2, 3, 4, 5,6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28
El Toro	5S	8W	7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, 33, 34, 35
	6S	8W	2, 3, 4, 5,6, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19, 20, 21, 29, 30
Laguna Beach	6S	8W	25, 26, 27, 28, 29, 33, 34, 35, 36
		9W	25
San Juan Capistrano	6S	8W	29, 30

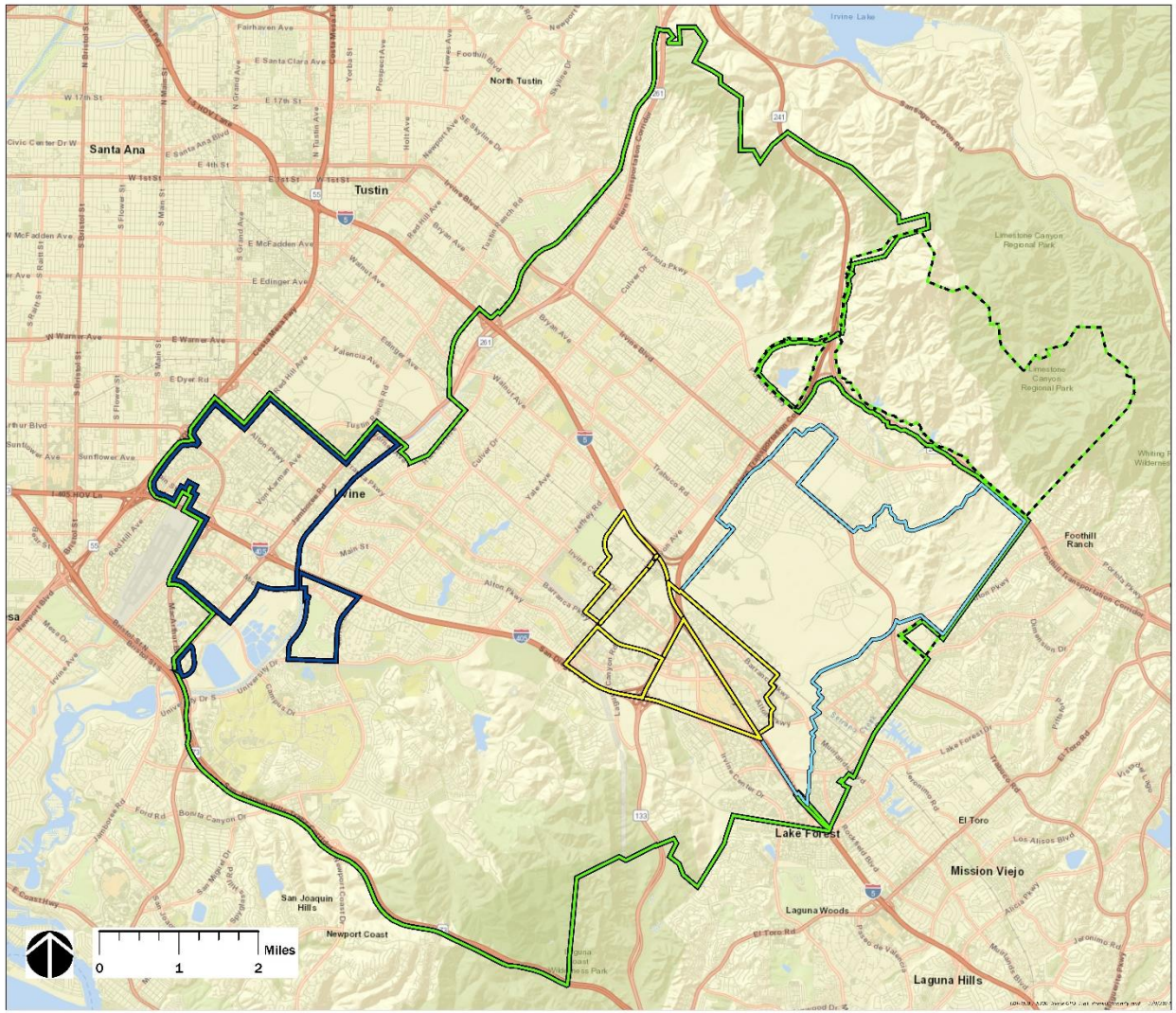

Figure 1. Project Vicinity Map

Incorporated in 1971, the City of Irvine adopted the first General Plan in December 1973. The City's General Plan was last comprehensively updated in 2000 and has been updated over the years to address necessary General Plan amendments. Since 2000, the City has continued to grow and the community has matured and evolved. As Irvine moves forward, the focus of the General Plan objectives and policies must be reexamined to ensure that the high quality-of-life factors that make Irvine exceptional are maintained and enhanced for residents, businesses, and visitors into the future. The update will provide long-term policy direction and communicate the vision, values, and goals for the City's physical development and overall quality of life. The City of Irvine 2045 General Plan will serve to identify areas of opportunity and provide options to enhance development in key focus areas of the City.

In addition, with the adoption of the certified 2021-2029 Housing Element in May 2022, the City is required to update the appropriate elements of the General Plan to accommodate the residential site inventory from the 2021-2029 Housing Element.

Project Buildout

The City is preparing the 2045 Focused General Plan Update that will serve as the long-range vision of the City for the next 20 to 25 years. The City as the lead agency has determined that the project will require the preparation of a Program Environmental Impact Report (Program EIR) in compliance with the California Environmental Quality Act (CEQA; California Public Resources Code, Section 21000 et seq.), and Title 14 of the California Code of Regulations (CCR).

Consistent with the 2021-2029 Housing Element, the Project would update the General Plan land use element to support the City's Regional Housing Needs Assessment (RHNA) of 23,610 units. To ensure consistency with State housing statutes, including no-net loss and affirmatively furthering fair housing requirements, the 2021-2029 Housing Element identified adequate sites to accommodate 57,656 new residential units. However, the City's current General Plan has a significant amount of unbuilt non-residential square footage available throughout the planning areas identified in the 2021-2029 Housing Element site inventory that would be available for the potential conversion to residential uses. As a result of the likely conversion of non-residential uses to residential uses, the City would need to add 15,019 fewer units under the Reduced Project Alternative (the Preferred Project) compared to the Proposed Project (the Conservative Alternative). In total, the Reduced Project Alternative would add 42,637 new units to the General Plan as compared to the 57,656 units proposed as part of the Project. The Project would accommodate the City's RHNA requirement for new residential units and implement the 2021-2029 Housing Element through the introduction of additional residential and/or mixed-use development throughout the City using overlay zones and/or master plans to allow greater flexibility for property owners and developers. The overlays would promote higher density residential and mixed-use in three focus areas, targeted retail centers, conversion of hotel/motel,

and on religious and school sites. It is anticipated that the majority of the future residential growth would occur in the three focus areas that are most suited for new growth and development as they are located near existing job centers and are along major travel corridors with access to existing and future public transit opportunities. Focus Area 1 is the Irvine Business Complex (Planning Area [PA] 19, 36); Focus Area 2 is the Spectrum area (PAs 13, 31, 32, and 33); and Focus Area 3 is Great Park Neighborhoods (PA 51), each of which is shown in Figure 1.

Focus Area 1 – Greater Irvine Business Complex Area: Planning Area 36 (Irvine Business Complex) and Planning Area 19 (Rancho San Joaquin): Focus Area 1 includes expanding a residential and/or mixed-use overlay to the entire Irvine Business Complex (IBC) and the specific sites identified in the 2021-2029 Housing Element site inventory located in Rancho San Joaquin. Over the past twenty years, the IBC has transitioned from predominantly non-residential uses to a mixed-use area that is currently governed by the 2007 IBC Vision Plan. Under the existing General Plan, the IBC has a maximum of 15,000 units. The IBC continues to be one of the two employment centers located within the City and remains an opportunity area for high density residential. The IBC is connected to the Tustin Transportation Center (Metrolink and OCTA transit service) through the iShuttle and has direct access to Interstate 405, State Route 73, and State Route 55. The General Plan Update proposes a new residential overlay and/or specific plan that will increase the total number of residential permitted in the Greater Irvine Business Complex Area by an additional 15,000 units.

Focus Area 2 - Greater Spectrum Area: Planning Area 13 (Irvine Spectrum 4), Planning Area 31 (Irvine Spectrum 6), Planning Area 32 (Irvine Spectrum 3), and Planning Area 33 (Irvine Spectrum Center): The Greater Spectrum Area incorporates three non-residential planning areas (13, 31, and 32) that are located adjacent to the Irvine Spectrum Center area, are emerging employment centers, are located near the Irvine Transportation Center (ITC – Metrolink, Amtrak, and OCTA transit service), and with the introduction of a residential overlay and/or specific plan could transition to a network of micro-villages or residential nodes, connected by a variety of multi-modal and complete street strategies that provide new opportunities for residents and businesses in Irvine. The General Plan Update proposes a new residential overlay and/or specific plan that will introduce a total number of 26,607 residential units to the Greater Spectrum Area.

Focus Area 3 – Great Park Neighborhood Transit Village: Planning Area 51 (Great Park Neighborhood): The Great Park Neighborhoods is an existing mixed-use planning area that features a mix of residential products at varying densities surrounding the Irvine Great Park. There are approximately 1,900 units remaining in the existing General Plan intensity, but a significant amount of the planning area remains vacant with no additional residential intensity. The proposed General Plan Update will increase the number of residential units permitted in the

Great Park with a focus on higher density product located near or adjacent to the Irvine Transportation Center. The Great Park Neighborhood Transit Village area will have direct access to Focus Area 2, the Greater Spectrum Area through a network of proposed multi-modal improvements. The General Plan Update will increase the residential intensity in Planning Area 51 by an additional 5,252 residential units.

The remaining units will be accommodated throughout the City per the 2021-2029 Housing Element site inventory. The residential overlays and/or specific plans will encourage a micro-village approach, building upon the historic and successful approach to master planning in the City of Irvine. Utilizing a micro-village approach to planning will ensure the focus areas are balanced with a mix of uses including neighborhood supporting square footage, open space, and non-residential square footage that are connected through multi-modal transportation and complete street strategies.

PROJECT PERSONNEL

Cogstone Resource Management (Cogstone) conducted the cultural and paleontological resources studies. Qualifications of Cogstone personnel are provided (Appendix A).

- Molly Valasik served as the Principal Archaeologist for the Project and reviewed the report. Valasik has an M.A. in Anthropology from Kent State University, a B.A. in Anthropology from Ohio State University, and 15 years of experience in southern California archaeology.

- Kim Scott served as the Principal Paleontologist for the Project and wrote the geological and paleontological portions of this report. Scott has an M.S. in Biology with paleontology emphasis from California State University, San Bernardino, a B.S. in Geology with paleontology emphasis from the University of California, Los Angeles, and over 29 years of experience in California paleontology and geology.

- Holly Hickman authored portions of the report. Ms. Hickman has a B.A. in Archaeology and History from Simon Fraser University, British Columbia, Canada, and 11 years of experience in southern California archaeology.

- Sherri Gust (late) wrote the prehistoric and ethnographic sections of this report. Ms. Gust was a Registered Professional Archaeologist (RPA) with an M.S. in Anatomy (Evolutionary Morphology) from the University of Southern California, a B.S. in Anthropology from the University of California at Davis and over 36 years of experience in California.

- Shannon Lopez conducted the archaeological and historic records search and wrote the historic context. Lopez has an M.A. in Architectural History from California State University, Fullerton, and a B.A. in History from California State University, Dominguez Hills, and five years of professional experience.

- Logan Freeberg prepared the GIS maps for the report. Mr. Freeberg has a B.A. in Anthropology from UC Santa Barbara and a GIS certification from CSU Fullerton and over 20 years of experience in California archaeology.

REGULATORY ENVIRONMENT

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA states that: “It is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required are intended to assist public agencies in systematically identifying both the significant effects of proposed project and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.”

CEQA declares that it is State policy to: "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered. If archaeological or paleontological resources are identified as being within the proposed project study area, the sponsoring agency must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the resource.

TRIBAL CULTURAL RESOURCES

In 2015, CEQA was amended and established that “[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (Public Resources Code [PRC] § 21084.2). In order to be considered, a “tribal cultural resource” must be a site, feature, place, cultural landscape, sacred place, or object, which is of cultural value to a California Native American Tribe and is either:

(1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or
(2) a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource.

To help determine whether a project may have such an effect, the lead agency must consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. California Native American tribe means a Native American tribe located in California that is on the contact list maintained by the

Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004 (PRC §21073.2.5). Consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project (PRC § 21080.3.1).

In applying those criteria, a lead agency must consider the value of the resource to the tribe. For example, in considering the criterion that a resource is "associated with the lives of persons important in our past," a lead agency would ask whether the resource is associated with the lives of persons important to the relevant tribe's past. That determination must be supported with substantial evidence which is defined in PRC §20180 (e) (1) as "fact, a reasonable assumption predicated on fact, or expert opinion supported by fact".

If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. PRC §20184.3 (b) (2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

The California Register of Historical Resources (CRHR) is a listing of all properties considered to be significant historical resources in the state. The California Register includes all properties listed or determined eligible for listing on the National Register, including properties evaluated under Section 106, and State Historical Landmarks number No. 770 and above. The California Register statute specifically provides that historical resources listed, determined eligible for listing on the California Register by the State Historical Resources Commission, or resources that meet the California Register criteria are resources that must be given consideration under CEQA (see above). Other resources, such as resources listed on local registers of historic registers or in local surveys, may be listed if they are determined by the State Historic Resources Commission to be significant in accordance with criteria and procedures to be adopted by the Commission and are nominated; their listing in the California Register, is not automatic.

Resources eligible for listing include buildings, sites, structures, objects, or historic districts that retain historical integrity and are historically significant at the local, state or national level under one or more of the following four criteria:

1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2) It is associated with the lives of persons important to local, California, or national history;

3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance.

Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data.

PUBLIC RESOURCES CODE SECTION

Section 5097.5: No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands (lands under state, county, city, district or public authority jurisdiction, or the jurisdiction of a public corporation), except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

NATIVE AMERICAN HUMAN REMAINS

Sites that may contain human remains important to Native Americans must be identified and treated in a sensitive manner, consistent with state law (i.e., Health and Safety Code §7050.5 and Public Resources Code §5097.9). In the event that human remains are encountered during project development and in accordance with the Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact

the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods.

CALIFORNIA ADMINISTRATIVE CODE, TITLE 14, SECTION 4307

This section states that "No person shall remove, injure, deface or destroy any object of paleontological, archeological or historical interest or value."

CITY GUIDELINES

The City of Irvine General Plan includes Element E on Cultural Resources. It recognizes the importance of historical, archaeological and paleontological resources in the City and establishes a process for their early identification, consideration, and where appropriate, preservation. It requires assessment of potential resources on projects and utilizes planning policies, ordinances, approval conditions and mitigation measures to protect the resources. This Project is itself a General Plan Update and may include updates to these goals and objectives.

ELEMENT E: CULTURAL RESOURCES

GOAL: Ensure the proper disposition of historical, archaeological, and paleontological resources to minimize adverse impacts, and to develop an increased understanding and appreciation for the community's historic and prehistoric heritage, and that of the region.

OBJECTIVE E-1: HISTORICAL, ARCHAEOLOGICAL, PALEONTOLOGICAL SURVEYS
Identify and obtain information on the existence and significance of historical, archaeological, and paleontological sites and encourage land use planning which incorporates this information.

OBJECTIVE E-2: HAZARD OCCURRENCE
Evaluate surveyed sites for their present and potential cultural, educational, recreational, and scientific value to the community and the region, and determine their proper disposition prior to the approval of any project which could adversely affect them.

DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003, Scott et al. 2004).

BACKGROUND

GEOLOGICAL SETTING

The project area is in the northern extent of the California Geomorphic Province known as the Peninsular Ranges. The Peninsular Ranges geomorphic province extends from Mount San Jacinto in the north, through the tip of Baja, Mexico in the south. Subparallel to these ranges on the east is the San Andreas Fault Zone. The northwestwards motion of the Pacific Plate has created these ranges and their corresponding valleys (Wagner 2002).

PALEONTOLOGICAL SETTING

The City has a complicated paleoenvironmental history that began during the Mesozoic Era (the "Age of Dinosaurs"), about 93 million years ago (93 Ma; Table 2). The past 93 Ma has seen the City transition from deep water marine in the Late Cretaceous, to coastal lowlands during the Paleocene to Oligocene, to shallow marine during the early Miocene, to deep marine during the early to early-late Miocene, back to shallow marine in the latest Miocene through the Pliocene, and finally to increasingly arid terrestrial deposits from the Pleistocene to the Holocene. In addition, younger sediments have been washed into the ocean by action of streams. Detail on each geological unit is in the Stratigraphy Section below.

STRATIGRAPHY

Geologic mapping by Morton and Miller (2006) maps the area as 27 separate rock units ranging from modern deposits to Late Cretaceous sediments (Table 2; Figure 2). Geological units are discussed in order from oldest to youngest.

Table 2. Geologic units within the City from oldest to youngest

Rock Unit Name		Paleoenvironment	Epoch	Epoch Age Range
Williams Formation, Pleasants Sandstone Member (Kwps)		shallow marine	Late Cretaceous	~100.5 Ma - ~66 Ma
Silverado Formation (Tsi)		coastal nonmarine to very shallow-marine	Paleocene	~66 Ma - ~56 Ma
Santiago Formation (Tsa)		coastal nonmarine to very shallow-marine	middle Eocene	~47.8 Ma to ~37.8 Ma
Sespe Formation (Ts)		nonmarine	late Eocene to early Miocene	~41.2 Ma - ~17.4 Ma
Vaqueros Formation (Tv)		shallow marine	latest Oligocene to latest early Miocene	~27 Ma - ~16 Ma
Vaqueros-Sespe Formation (Tvs)		shallow marine - nonmarine		
El Modeno Volcanics (Tiemd, Tiemd?)		volcanics	middle Miocene	middle Miocene
Topanga Group	Paulerino Formation (Ttp)	shallow marine		
	Los Trancos Formation (Ttlt)	shallow marine		
	Bommer Formation (Ttb)	shallow marine		
Monterey Formation (Tm)		deep marine	late Miocene	~11.6 Ma - ~5.3 Ma
Puente Formation (Tp, Tpsq, Tplv)		deep marine, submarine fan		
Capistrano Formation, Oso Member (Tco)		shallow marine	late Miocene to early Pliocene	~11.6 Ma - ~3.6 Ma
Niguel Formation (Tn)		shallow marine	Pliocene	~5.3 Ma - ~2.6 Ma
very old alluvial-fan deposits (Qvof)		alluvial fan	early to middle Pleistocene	~2.6 million years (Ma) - ~126 ka -
very old axial-channel deposits (Qvoa)		flood-plains		
old paralic and alluvial fan deposits (Qopf)		shoreline overlain by alluvial fans	middle to late Pleistocene	~774 ka - ~11.7 ka –
young landslide deposits (Qyls?)		landslide	late Pleistocene to Holocene	<126 ka
young alluvial-fan deposits (Qyf)		alluvial fan		
young colluvium (Qyc)		slope deposit		
young axial-channel deposits (Qya)		flood-plains		
very young slope wash deposits (Qsw)		slope wash	late Holocene	<5,000 years (<5 ka)
very young landslide deposits (Qls, Qls?)		slope wash		
artificial fill (Qaf)		human-made	modern	<200 years

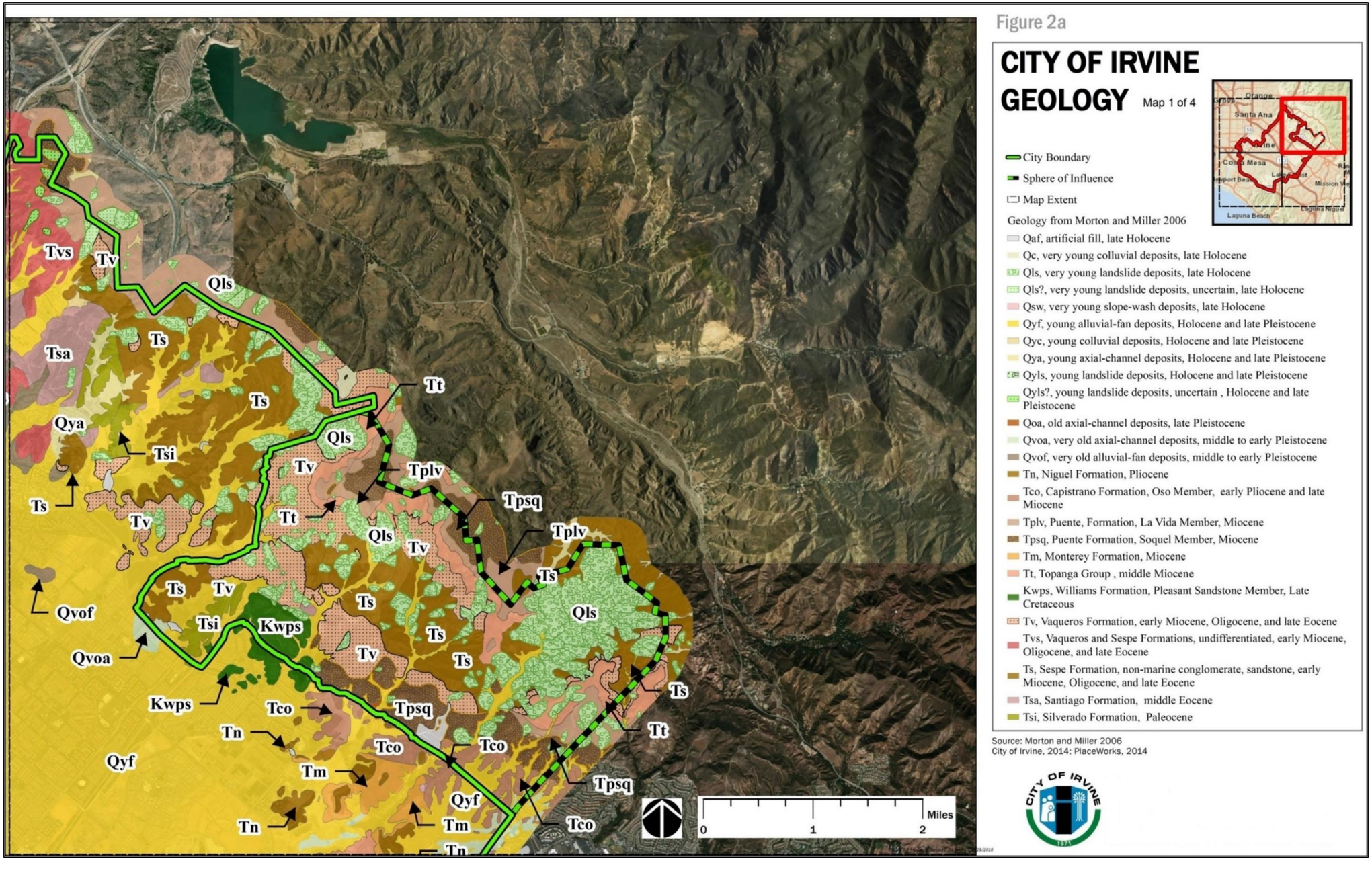

Figure 2a. Geology Map, 1 of 4

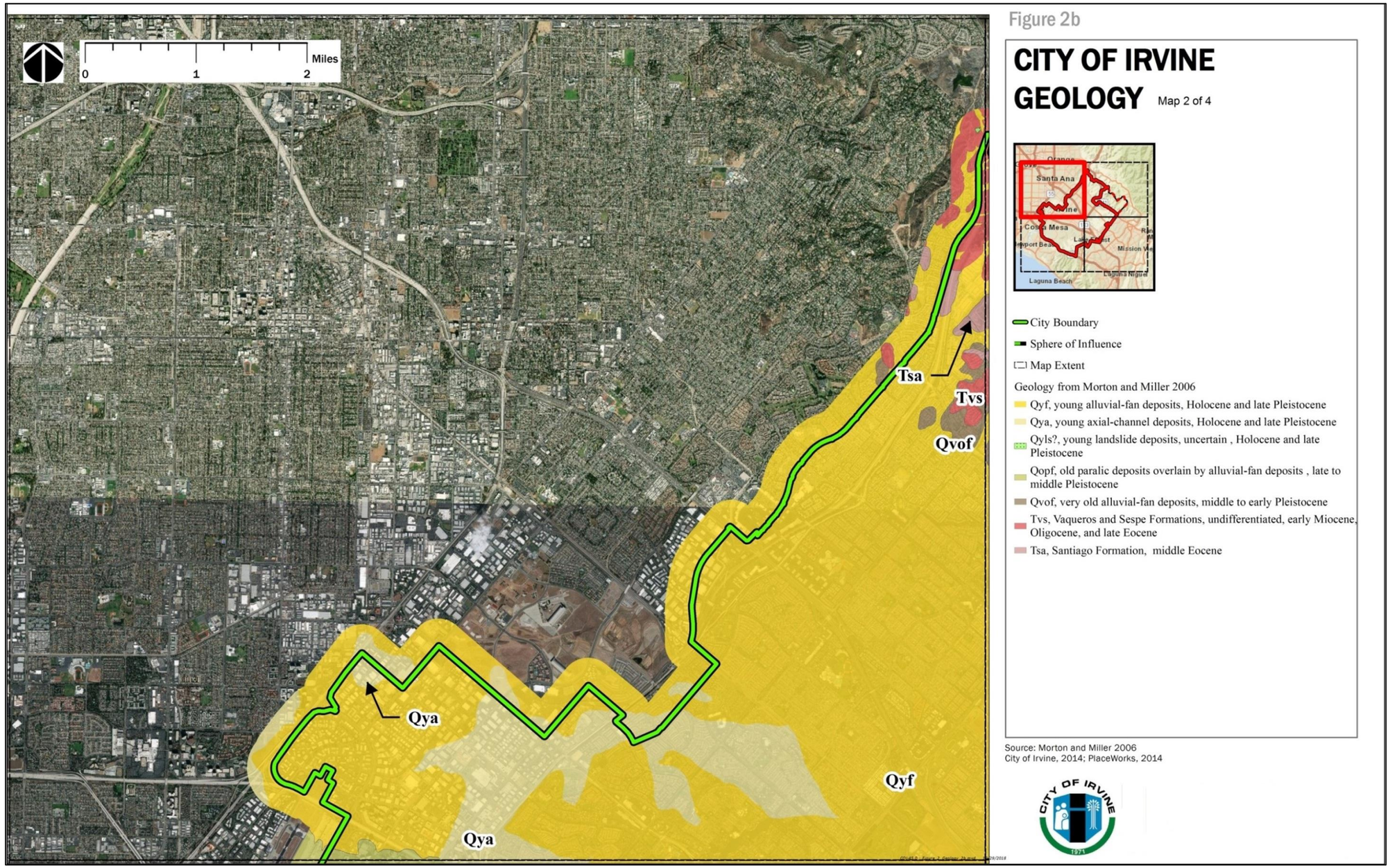

Figure 2b

CITY OF IRVINE
GEOLOGY Map 2 of 4

City Boundary
Sphere of Influence
Map Extent

Geology from Morton and Miller 2006
Qyf, young alluvial-fan deposits, Holocene and late Pleistocene
Qya, young axial-channel deposits, Holocene and late Pleistocene
Qyls?, young landslide deposits, uncertain , Holocene and late Pleistocene
Qopf, old paralic deposits overlain by alluvial-fan deposits , late to middle Pleistocene
Qvof, very old alluvial-fan deposits, middle to early Pleistocene
Tvs, Vaqueros and Sespe Formations, undifferentiated, early Miocene, Oligocene, and late Eocene
Tsa, Santiago Formation, middle Eocene

Source: Morton and Miller 2006
City of Irvine, 2014; PlaceWorks, 2014

Figure 2b. Geology Map, 2 of 4

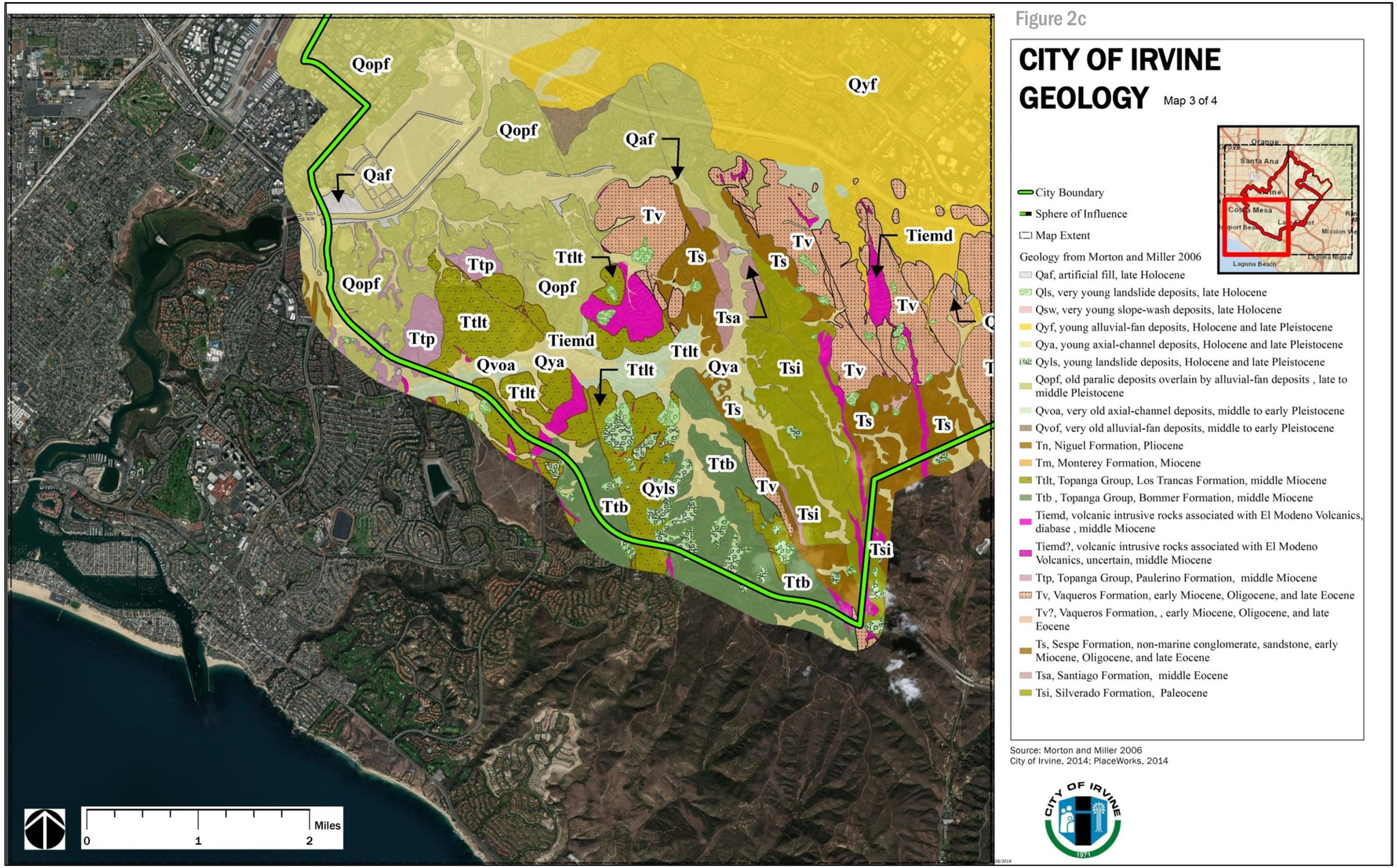

Figure 2c. Geology Map, 3 of 4

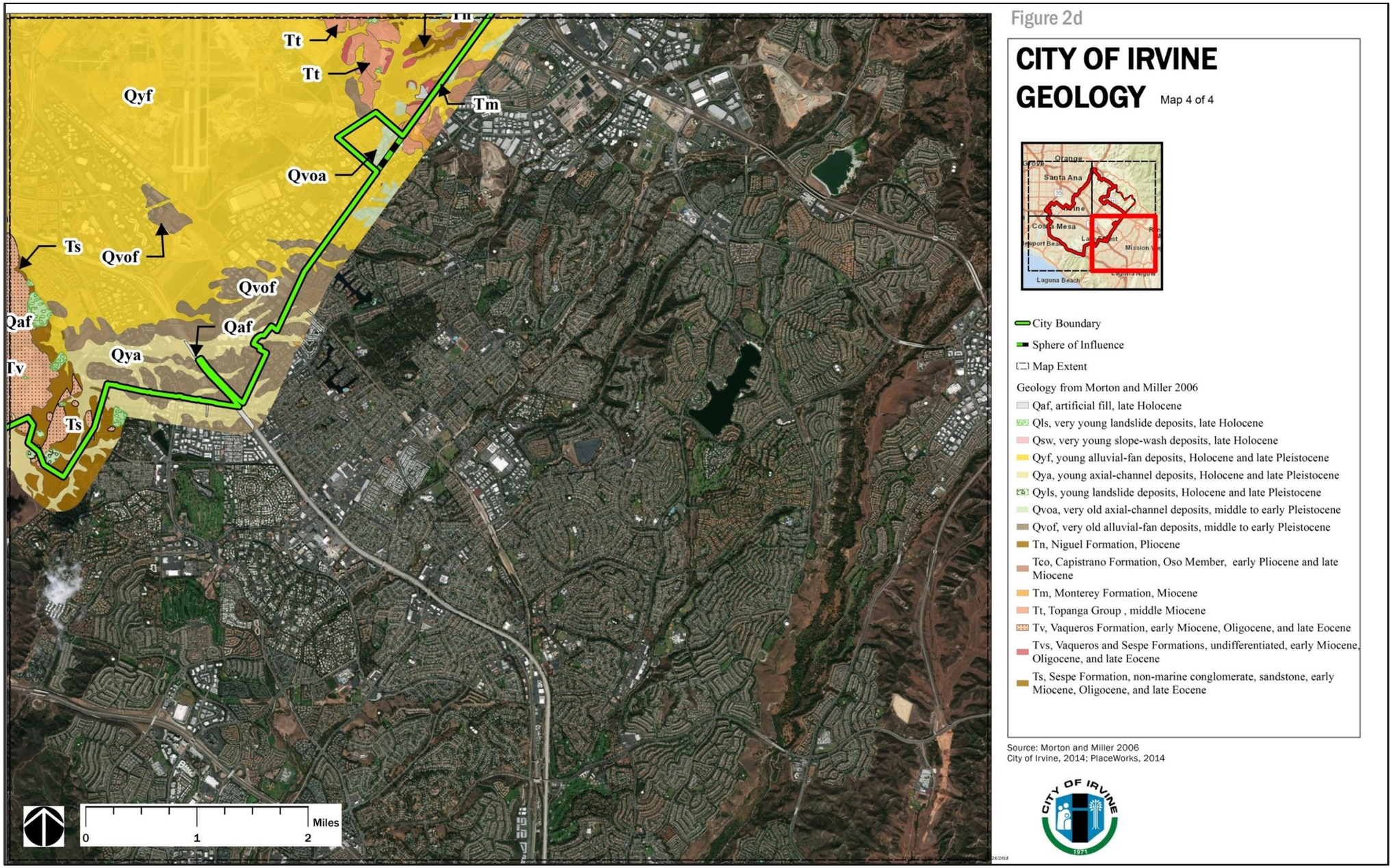

Figure 2d. Geology Map, 4 of 4

Late Cretaceous Rocks (~100.5 million years old [Ma] to ~66 Ma)

Williams Formation, Pleasants Sandstone Member (Kwps)

The thickness of this shallow marine sandstone ranges from 0 m to 150 m in the Santa Ana Mountains. The lower portion of this formation consists of a massive sandstone with biotite, black carbonaceous fragments, scattered conglomerate lenses, and thin-bedded, biotite- and muscovite-bearing sandstone. The upper portion consists of poorly bedded, white to pale gray, feldspathic sandstone (Schoellhamer et al. 1981, Morton and Miller 2006).

Paleocene Rocks (~66 Ma to ~56 Ma)

Silverado Formation (Tsi)

Deposited in coastal nonmarine swamps and sloughs to very shallow-marine deltas and bays, the thickness of this formation ranges from 200 m to 450 m in the Santa Ana Mountains. This formation is divided into a basal conglomerate (Tsicg) overlain by sandstone and siltstone of the undifferentiated Silverado Formation (Tsi; Schoellhamer et al. 1981, Morton and Miller 2006).

Above the basal conglomerate, the Silverado Formation consists of marine and nonmarine, sandstone and siltstone. Clasts are largely of quartz and clay with some conglomerate. The locally mapped Serrano Clay (Tsis) is present within the upper Silverado Formation. It is a 1 m thick marker bed composed of pale gray to white, soft and plastic clay and quartz with carbonaceous shale and lignite beds (Schoellhamer et al. 1981, Eisentraut and Cooper 2002, Morton and Miller 2006).

Middle Eocene Deposits (~47.8 Ma to ~37.8 Ma)

Santiago Formation (Tsa)

These sediments consist of marine and nonmarine deposits from a coastal lowland paleoenvironment. At the base is a conglomerate with the clasts that originated from western central Mexico where the Santiago Formation was originally deposited. The north-westerly movement of the Pacific Plate by the San Andreas Fault Zone brought these sediments into southern California. Pale gray sandstone and some interbedded siltstone occurs above the conglomerate (Schoellhamer et al. 1981, Morton and Miller 2006).

Late Eocene to latest early Miocene Deposits (~41.2 Ma to ~17.4 Ma)

Sespe Formation (Ts)

This red to grey, non-marine mudstone to conglomerate occurs as massive to thick bedded deposits with poorly developed bedforms (Eisentraut and Cooper 2002, Morton and Miller

2006). This terrestrial deposit includes fluvial, floodplain, and alluvial fan deposits. This formation also reflects a major drop in global sea levels (Eisentraut and Cooper 2002, McCulloch and Bayer 2004).

Miocene Epoch (~23 Ma to ~5.3 Ma)

The Miocene Epoch was a dramatic time in southern California. The San Andreas Fault began bringing Pacific Plate lands from the south, volcanoes erupted, mountain grew, and numerous coastal marine basins were formed. Orange County rests in one of these basins - the Los Angeles Basin. During the Miocene, the Los Angeles Basin was tectonically active. Opening of the basin began about 17.4 Ma (McCulloch and Bayer 2004) and was followed by subsidence and creation of a deep marine depositional basin. Sediments are estimated to be up to six miles thick, one of the thickest Neogene stratigraphic successions in the world (Eisentraut and Cooper 2002).

Latest Oligocene to latest early Miocene (~27 Ma to ~16 Ma)

Sespe-Vaqueros Formation (Tvs)

These two formations interfinger so much in many areas of California that they are mapped together. Sespe Formation sediments are generally coarser than those of the Vaqueros Formation. The Vaqueros-Sespe section and can reach thicknesses between 1,500 and 2,000 feet in the Lake Forest area (McCulloch and Bayer 2004). See the individual descriptions for each for more information.

Sespe Foramation (Ts)

This formation is of terrestrial origin and consists of sandstones and conglomerates from riverine, shoreline and floodplain environments. Commonly, the sandstones weathers to reddish-brown, maroon, pinkish-gray, tan and green colors. Many of the sandstones are resistant to erosion and thus form dramatic outcrops and ridgelines.

Vaqueros Formation (Tv)

The shallow marine Vaqueros Formation occurs as greenish-gray to very dark gray, massive- to thick-bedded silty sandstone. Sandstone beds interfinger with thin-bedded siltstone and shale, mudstone, and minor conglomerate (McCulloch and Bayer 2004, Morton and Miller 2006). Deposition of the Vaqueros Formation began about 24 Ma and ended in most of the Los Angeles area between 17.5 Ma and 17.4 Ma based on the dating of volcanics, marine mollusks, benthic foraminifea, magnetic polarity stratigraphy, and other methods (Nagle and Parker 1971, Yerkes and Campbell 1979, Schoellhamer et al. 1981, Blake 1983, Mason and Swisher 1989, Nourse et al. 1998, Prothero et al. 1996, Lucas et al. 1997, Liddicoat 2001, McCulloch et al. 2001, Prothero and Donohoo 2001, McCulloch et al. 2002, Ludtke and Prothero 2003, Lander et al. 2003,

Whistler and Lander 2003, McCulloch and Bayer 2004). The appearance of marine sediments after the non-marine Sespe Formation indicates rising global sea levels.

Middle Miocene Deposits (~17.4 Ma to ~11.6 Ma)

El Modeno Volcanics (Tiemd)

This unit consists of a fine grained diabasic intrusive rock (Morton and Miller 2006) created by volcanic eruptions.

Topanga Group, undifferentiated (Tt)

Undifferentiated Topanga Group (Tt) sediments consist primarily of coarse-grained, massive to thick-bedded sandstone and conglomerate. A basal tan to grey, well indurated, sandy conglomerate bed ranging from 2 m to 9 m is present (Schoellhamer et al. 1981). Clasts in this basal unit are predominantly granitic and gneissic with some volcanics. Above the basal conglomerate, are interfingering, thinly bedded, fine to coarse-grained sandstone, siltstone, and minor amounts of diatomaceous and partially silicified shale. While the shale is grey to greyish-white, coarser sediments are yellow to yellowish-tan (Morton and Miller 2006). Deposition began about 17.4 Ma and ended about 15.9 Ma based on dating of underlying and overlying volcanics (Turner and Campbell 1979, McCulloch et al. 2002, McCulloch and Bayer 2004).

The shallow to deep marine Topanga Group was one of the first units to be deposited in the rapidly deepening Los Angeles Basin. Much of these deep submarine fan and plain deposits occurred between 13 Ma and 5 Ma and corresponds with deposition of the Topanga and Monterey formations (Redin 1991, McCulloch and Bayer 2004). The Los Angeles Basin/ Tustin Plain continues to be filled by modern deposition today.

Formations of the Topanga Group (Ttb, Ttlt, Ttp)

In Orange County, the Topanga Group includes three formations: the basal Bommer Formation (Ttb), the middle Los Trancos Formation (Ttlt), and the upper Paulerino Formation (Ttp). Prior to Morton and Miller (2006) the Topanga Group formations were member level.

The basal Bommer Formation consists of gray to brownish-gray, thick-bedded, medium- to coarse-grained sandstone with interfingering fine-grained sandstone and siltstone. The formation is locally conglomeratic. The pale gray to brownish-gray, thin- to medium-bedded, siltstone and fine-grained sandstone of the Los Trancos Formation is up to 945 m thick. The upper Paulerino Formation consists of pale gray, tuffaceous sandstone and thin-bedded siltstone (Morton and Miller 2006).

Late Miocene Deposits (~11.6 Ma to ~5.3 Ma)

Monterey Formation (Tm)

This siliceous and diatomaceous marine mudstone, shale, diatomite, and some chert is primarily white to pale brown and thinly laminated or bedded. In the San Juan Capistrano area, lower part of Puente Formation grades laterally southward into Monterey Formation (Morton and Miller 2006). Sediments are part of a deep submarine fan and plain deposits that were deposited between 13 Ma and 5 Ma (Redin 1991). Locally named "Pecten Reef", a limestone in the Aliso Viejo area has produced abundant invertebrate and vertebrate fossils. The Monterey Formation was deposited at the same time as the Soquel Member, La Vida Member, and the lower portion of the undifferentiated Puente Formation (Morton and Miller 2006).

Puente Formation (Tp, Tpsq, Tplv)

The deep marine Puente Formation has produced numerous fossil localities of marine animals and algae as well as terrestrial plants and animals that were washed in from the land. These sediments were deposited at the same time as the Monterey Formation. Within the City are three units: the undifferentiated Puente Formation (Tp), the younger Soquel Member (Tpsq), and the basal La Vida Member (Tplv; Morton and Miller 2006).

The undifferentiated Puente Formation (Tp) consists of sandstone, siltstone, and shale. The Soquel Member (Tpsq) is primarily marine sandstone with minor amounts of shale. Beds are yellowish grey to grey, massive to well-bedded, silts to very coarse grained sandstone, interbedded with matrix supported pebble conglomerate (Morton and Miller 2006). The member ranges from 200 to 310 feet thick in the eastern Puente Hills and the sediments have been interpreted to be middle to inner submarine fan facies (Cooper 1981).

The basal La Vida Member (Tplv) sediments are primarily light-gray to black, massive to well-bedded, generally friable siltstone with some sandstone beds from 2 cm to over 1 meter thick. Fish remains are common and include deep water species (Morton and Miller 2006).

Late Miocene to early Pliocene Deposits (~11.6 Ma to ~3.6 Ma)

Capistrano Formation, Oso Sand (Tco)

The Oso Sand of the Capistrano Formation consists of white to light gray, massive, medium- to coarse-grained, friable, marine sandstone with scattered matrix-supported pebbles, cobbles, and concretions (Morton and Miller 2006). The bay that occupied the region was named the Capistrano Embayment (Reed and Hollister 1936). This embayment was a broad flat-bottomed structural trough that extended at least 22 miles inland from the present-day shoreline. How far offshore it extended is undetermined because of its merging with the deep offshore basins. Water depths in the Capistrano Embayment reached nearly 2,000 meters at it deepest point (Ingle 1979).

Pliocene Deposits (~5.3 Ma to ~2.6 Ma)

Niguel Formation (Tn)

These very near-shore marine, brownish-gray, poorly sorted, coarse-grained sandstones are interbedded with conglomeratic sandstone and conglomerates. The paleoenvironment represented is near-shore marine (Vedder 1960, Morton and Miller 2006).

Early to middle Pleistocene Deposits (2.6 Ma to 126,000 years old [120 ka])

Very old axial channel deposits (Qvoa)

Axial channel deposits were emplaced adjacent to streams in through-going stream valleys. Undifferentiated very old axial channel sediments are dominated by sand, but contain scattered gravel and pebble layers, as well as silt and clay-bearing alluvium. These deposits are moderately to well-indurated, reddish-brown, and are highly pigmented in upper parts. The upper surfaces are typically very dissected (Morton and Miller 2006).

Very old alluvial fan deposits (Qvof)

Alluvial fan deposits are deposited into our valleys from local mountains via the mouths of canyons. Sediments are moderately to well indurated, silts to bouldery conglomerates, with slightly to moderately dissected fan surfaces. In much of Peninsular Ranges these sediments are moderately well indurated, orangish brown sand and silt with well dissected fan surfaces (Morton and Miller 2006). Clasts coarsen upstream with boulders up to several meters across being deposited near the mountains during flash floods

Middle to late Pleistocene Deposits (774,000 [774 ka] to 126 ka)

Old paralic deposits (Qopf)

Paralic deposits were emplaced adjacent to the ocean and include interfingered strandline, beach, estuarine, and colluvial deposits. These poorly sorted, moderately permeable, reddish-brown, are composed of silt, sand, and cobbles. The top of the unit is capped by thin but extensive sand-rich alluvial fan deposits derived from local sources (Morton and Miller 2006).

Late Pleistocene to Holocene Deposits (less than 126 ka)

Young axial channel deposits (Qya)

Axial channel deposits were emplaced adjacent to streams in through-going stream valleys. Sediments are slightly to moderately indurated and consist of silts to pebbles (Morton and Miller 2006).

Young colluvial deposits (Qyc)
Colluvium is present as scree, soils, or other materials and is primarily found at the base of hills. These sediments have been emplaced by rain wash or slow continuous downslope creep. The young deposits are undissected to slightly dissected, unconsolidated to slightly consolidated and have minor amounts of soil development (Morton and Miller 2006).

Young alluvial fan deposits (Qyf)
Alluvial fan deposits are deposited into our valleys from local mountains via the mouths of canyons. Sediments are unindurated to moderately indurated, silts to bouldery conglomerates, with slightly to moderately dissected fan surfaces (Morton and Miller 2006). Clasts coarsen upstream with boulders up to several meters across being deposited near the mountains during flash floods.

Young landslide deposits (Qyls?)
Landslides are the result of slope failures and typically result in chaotically emplaced sediments. Slides may or may not be active and have slightly dissected or modified surfaces (Morton and Miller 2006). In less chaotic slides and slumps beds can sometimes be traced and given stratigraphic context.

Late Holocene Deposits (less than 5 ka)

Very young landslide deposits (Qls, Qls?)
Landslides are the result of slope failures and typically result in chaotically emplaced sediments. Slides may or may not be active and have well preserved morphology (Morton and Miller 2006). In less chaotic slides and slumps beds can sometimes be traced and given stratigraphic context.

Very young slope wash deposits (Qsw)
Very similar to the colluvial deposits, slope wash is also associated with hillsides. The unconsolidated, typically angular, sand to boulder sized clasts have been emplaced by water not confined to channels (Morton and Miller 2006).

Modern Deposits (less than 200 years old)

Artificial fill (Qaf)
Modern fill is frequently not mapped on geologic maps due to its ubiquitous nature. Although fill is typically less than a few feet thick, it can be substantially thicker in the areas of overpasses, freeways, and other large earthworks. Any fossils that may be encountered therein are not scientifically significant.

ETHNOGRAPHY

The City of Irvine is located within the traditional tribal territory of the Gabrielino with the Acjachemen (Juaneño) located immediately to the south (McCawley 1996, Figure 3). The traditional tribal territory of the Gabrielino includes large portions of Los Angeles County, the northern part of Orange County, small sections of Riverside and San Bernardino Counties as well as the southern Channel Islands of Santa Barbara, San Clemente, San Nicolas, and Santa Catalina (McCawley 1996, Figure 3). The traditional tribal territory of the Acjachemen includes northern San Diego County and southern Orange County (O'Neil and Evans 1980). Tribal boundaries are fluid and the Acjachemen territory may have extended north to include the City of Irvine. Background sections for both the Gabrielino and Acjachemen are provided below.

GABRIELINO

The Gabrielino are considered to have been one of the wealthiest tribes and to have greatly influenced tribes they traded with (Kroeber 1976:621). Houses were domed, circular structures thatched with tule or similar materials (Bean and Smith 1978:542). The best known artifacts were made of steatite and were highly prized. Many common everyday items were decorated with inlaid shell or carvings reflecting an elaborately developed artisanship (Bean and Smith 1978:542).

The main food zones utilized were marine, woodland and grassland (Bean and Smith 1978). Plant foods were, by far, the greatest part of the traditional diet at contact. Acorns were the most important single food source. Villages were located near water sources necessary for the leaching of acorns, which was a daily occurrence. Grass seeds were the next most abundant plant food used along with chia. Seeds were parched, ground, and cooked as mush in various combinations according to taste and availability. Greens and fruits were eaten raw or cooked or sometimes dried for storage. Bulbs, roots, and tubers were dug in the spring and summer and usually eaten fresh. Mushrooms and tree fungus were prized as delicacies. Various teas were made from flowers, fruits, stems, and roots for medicinal cures as well as beverages (Bean and Smith 1978:538-540).

The principal game animals were deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, dove, ducks, and other birds. Most predators were avoided as food, as were tree squirrels and most reptiles. Trout and other fish were caught in the streams, while salmon were available when they ran in the larger creeks. Marine foods were extensively utilized. Sea mammals, fish, and crustaceans were hunted and gathered from both the shoreline and the open ocean, using reed and dugout canoes. Shellfish were the most common resource, including abalone, turbans, mussels, clams, scallops, bubble shells, and others (Bean and Smith 1978:538-540).

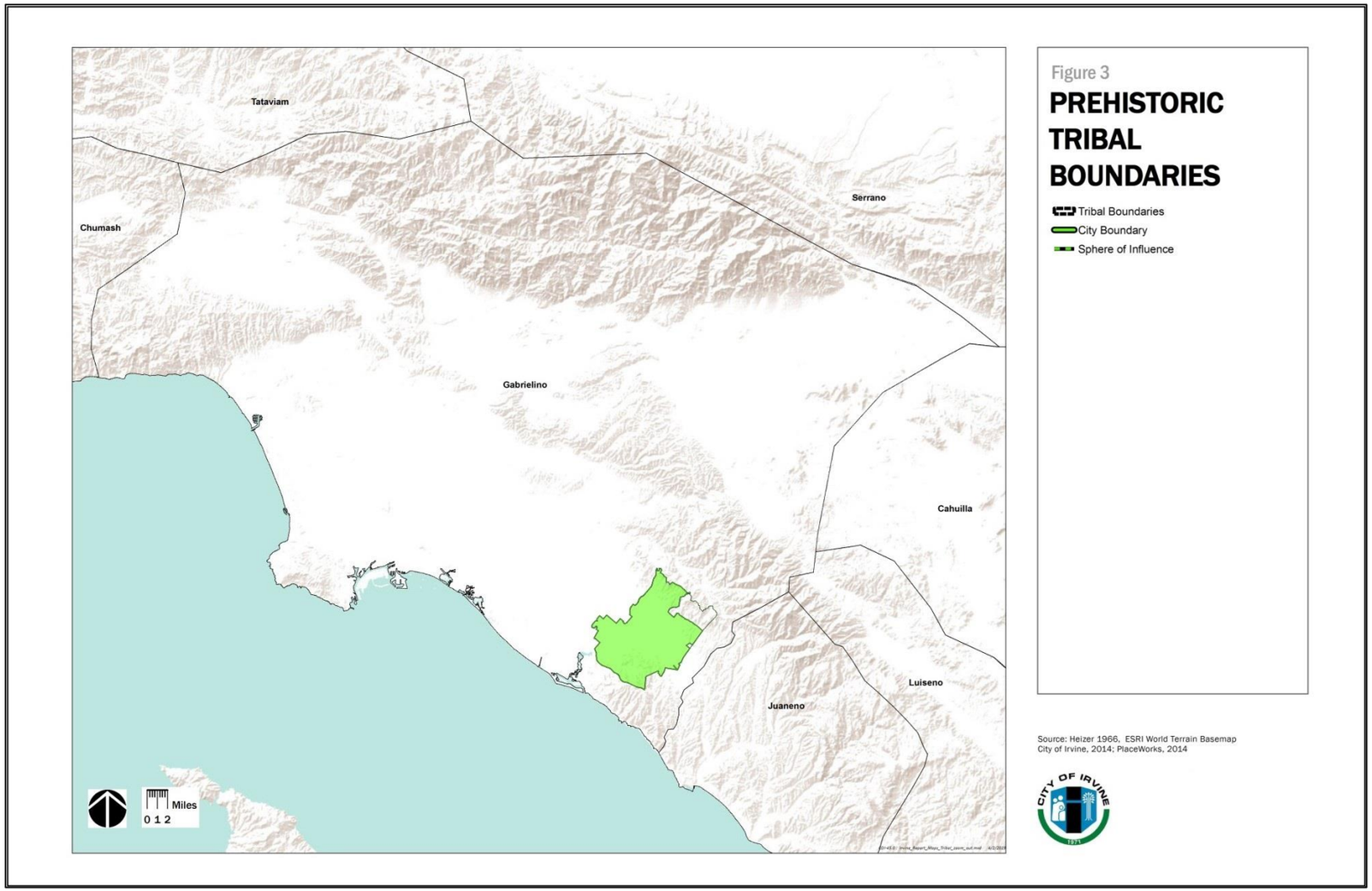

Figure 3. Tribal Territory Map

JUANEÑO ACJACHEMEN

About 1,300 years ago the Acjachemen (Juaneño), who were hunters and gatherers of the San Luis Rey Cultural Pattern, moved into southern Orange County. The Acjachemen speak a language that is part of the Takic language family. Their traditional tribal territory was situated partly in northern San Diego County and partly in southern Orange County (see Figure 3). The boundaries were Las Pulgas Creek (south), Aliso Creek (north), the Pacific Ocean (west) and the Santa Ana Mountains (east). Villages were mostly along San Juan Creek, Trabuco Creek and San Mateo Creek (O'Neil and Evans 1980).

In prehistory, the Acjachemen had a patrilineal society and lived in groups with other relatives. These groups had established claims to places including the sites of their villages and resource areas. Marriages were usually arranged from outside villages establishing a social network of related peoples in the region. There was a well-developed political system including a hereditary chief. Religion was an important aspect of their society. Religious ceremonies included rites of passage at puberty and mourning rituals (Kroeber 1925).

Houses were typically conical in shape and thatched with locally available plant materials. Work areas were often shaded by rectangular brush-covered roofs (ramada). Each village had a ceremonial structure in the center enclosed by a circular fence where all religious activities were performed (Bean and Shipek 1978).

Women are known to have been the primary gatherers of plant foods, but also gathered shellfish and trapped small game animals. Men hunted large game, most small game, fished, and assisted with plant food gathering, especially of acorns. Adults were actively involved in making tools including nets, arrows, bows, traps, food preparation items, pottery and ornaments. Tribal elders had important political and religious responsibilities and were involved in education of younger members (Bean and Shipek 1978).

PREHISTORIC SETTING

Review of archaeological data has resulted in a revised synthesis of cultural change as evidenced by material culture and archaeologically visible cultural practices. A large part of what was previously referred to as the Millingstone Period is now called the Topanga pattern of the Encinitas Tradition. This pattern is replaced in the Project Area by the Angeles pattern of the Del Rey Tradition later in time (Sutton 2010; Table 3).

Table 3. Culture Change Chronology

Pattern	Phase	Dates (BP)	Material Traits	Other Traits
Encinitas	Topanga I	8,500 to 5,000	Abundant manos and metates, many core tools and scraper s, few but large points, charmstones, cogged stones, early discoidals, bone gorge fishhooks, faunal remains rare; Olivella spire/end lopped beads appear	Estuary/lagoon shellfish and sharks/rays common, hunting important, secondary burials under metate cairns (some with long bones only), some extended inhumations, no cremations
	Topanga II	5,000 to 3,500	Abundant but decreasing manos and metates, adoption of mortars and pestles, smaller points, cogged stones, late discoidals, fewer scraper planes and core tools, some stone balls and charmstones; inhumations common; Olivella Grooved Rectangular beads introduced	Estuary/lagoon shellfish and sharks/rays common, addition of acorns, reburial of long bones only, addition of flexed inhumations (some beneath metate cairns), cremations rare
Angeles	Angeles I	3,500 to 2,600	Appearance of Elko dart points and an increase in the overall number of projectile points from Encinitas components; beginning of large-scale trade in small steatite artifacts (effigies, pipes, and beads) and *Olivella* shell beads; appearance of single-piece shell fishhooks and bone harpoon points; Coso obsidian becomes important; appearance of donut stones; appearance of Mytilus beads	apparent population increase; fewer and larger sites along the coast; collector strategy; less overall dependence on shellfish but fishing and terrestrial hunting more important; appearance of flexed and extended inhumations without cairns, cremations uncommon
	Angeles II	2,600 to 1,600	Continuation of basic Angeles I material culture with the addition of mortuary features containing broken tools and fragmented cremated human bone; fishhooks become more common	Shellfish change to mudflat species, more emphasis on fish, birds and mammals, continuation of basic Angeles I settlement and subsistence systems; appearance of a new funerary complex
	Angeles III	1,600 to 1,250	Appearance of bow and arrow technology (e.g., Marymount or Rose Spring points); changes in *Olivella* beads; asphaltum becomes important; reduction in obsidian use; Obsidian Butte obsidian largely replaces Coso	larger seasonal villages; flexed primary inhumations but no extended inhumations and an increase in cremations; appearance of obsidian grave goods
	Angeles IV	1,250 to 800	Cottonwood points appear; some imported pottery appears; birdstone effigies at the beginning of the phase and "spike" effigies dropped by the end of the phase; possible appearance of ceramic pipes, *Mytilus* shell disks	change in settlement pattern to fewer but larger permanent villages; flexed primary inhumations continue, cremations uncommon

Pattern	Phase	Dates (BP)	Material Traits	Other Traits
	Angeles V	800 to 450	Trade of steatite artifacts from the southern Channel Islands becomes more intensive and extensive, with the addition or increase in more and larger artifacts, such as vessels and comals; larger and more elaborate effigies; portable mortars and pestles	strengthening of ties, especially trade, with southern Channel Islands; expansion into the northern Santa Ana Mountains and San Joaquin Hills
	Angeles VI	450 to 150	Addition of Euroamerican material culture (e.g., glass beads and metal tools), locally made pottery, metal needle-drilled *Olivella* beads	change of settlement pattern, movement close to missions and ranches; use of domesticated species obtained from Euroamericans; flexed primary inhumations continue; apparent adoption of Chingichngish religion

Topanga Pattern groups were relatively small and highly mobile. Sites tend to be along the coast in wetlands, bays, coastal plains, near-coastal valleys, marine terraces and mountains. The Topanga toolkit is dominated by manos and metates with projectile points scarce (Sutton and Gardner 2010: 9).

In Topanga Phase I other typical characteristics were a few mortars and pestles, abundant core tools (scraper planes, choppers, and hammerstones), relatively few large, leaf-shaped projectile points, cogged stones, and early discoidals (Table 3). Secondary inhumation under cairns was the common mortuary practice. In Orange County as many as 600 flexed burials were present at one site and dated 6, 435 calibrated radiocarbon years before present (Sutton and Gardner 2010: 9, 13).

In Topanga Phase II, flexed burials and secondary burial under cairns continued. Adoption of the mortar and pestle is a marker of this phase. Other typical artifacts include manos, mutates, scrapers, core tools, discoidals, charmstones, cogged stones, and an increase in the number of projectile points. In Orange County stabilization of sea level during this time period resulted in increased use of estuary, near shore and local terrestrial food sources (Sutton and Gardner 2010: 14-16).

The Angeles pattern generally is restricted to the mainland and appears to have been less technologically conservative and more ecologically diverse, with a largely terrestrial focus and greater emphases on hunting and nearshore fishing. In Angeles Phase I Elko points for atlatls or darts appear, small steatite objects such as pipes and effigies are found, shell beads and ornaments increase, fishing technologies increase including bone harpoons/fishhooks and shell

fishhooks, donut stones appear, and hafted micro blades for cutting/graving wood or stone appear. In addition, several Encinitas traits, such as discoidals, cogged stones, plummet-like charm stones and cairn burials virtually disappear from the record. Mortuary practices changed to consist of primarily flexed primary inhumations, with extended inhumations becoming less common. Settlement patterns made a shift from general use sites being common to habitation areas separate from functional work areas. Subsistence shifted from mostly collecting to increased hunting and fishing.

The Angeles Phase II is identified primarily by the appearance of a new funerary complex, with other characteristics similar to Angeles I. The complex features killed (broken) artifacts plus highly fragmented cremated human bones and a variety of faunal remains. In addition to the cremains, the other material also often burned. None of the burning was performed in the burial feature.

The Angeles III Phase is the beginning of what has been known as the Late Period and is marked by several changes from Angeles I and II. These include the appearance of small projectile points, steatite shaft straighteners and increased use of asphaltum all reflecting adoption of bow and arrow technology, obsidian sources changed from mostly Coso to Obsidian Butte and shell beads from Gulf of California species began to appear. Subsistence practices continued as before and the geographic extent of the Angeles Pattern increased (Sutton 2010).

Angeles Phase IV is marked by new material items including Cottonwood points for arrows, Olivella cupped beads and Mytilus shell disks, birdstones (zoomorphic effigies with magico-religious properties) and trade items from the Southwest including pottery. It appears that populations increased and there was a change in the settlement pattern to fewer but larger permanent villages. Presence and utility of steatite vessels may have impeded the diffusion of pottery into the Los Angeles Basin. Smaller, special-purpose sites continued to be used (Sutton 2010).

Angeles Phase V components contain more and larger steatite artifacts, including larger vessels, more elaborate effigies, and comals. Settlement locations shifted from woodland to open grasslands. The exploitation of marine resources seems to have declined and use of small seeds increased. Many Gabrielino inhumations contained grave goods while cremations did not (Sutton 2010).

The Angeles Phase VI reflects the ethnographic mainland Gabrielino of the post-contact (i.e., post-A.D. 1542) period. One of the first changes in Gabrielino culture after contact was undoubtedly population loss due to disease, coupled with resulting social and political disruption. Angeles Phase VI material culture is essentially Angeles Phase V, augmented by a number of Euro-American tools and materials, including glass beads and metal tools such as knives and needles (used in bead manufacture). The frequency of Euro-American material culture increased

through time until it constituted the vast majority of materials used. Locally produced brownware pottery appears along with metal needle-drilled Olivella disk beads (Sutton 2010).

The ethnographic mainland Gabrielino subsistence system was based primarily on terrestrial hunting and gathering; although nearshore fish and shellfish played important roles. Sea mammals, especially whales (likely from beached carcasses), were prized. In addition, a number of European plant and animal domesticates were obtained and exploited. Ethnographically, the mainland Gabrielino practiced interment and some cremation (Sutton 2010).

HISTORIC SETTING

Spanish Exploration

Juan Cabrillo was the first European to sail along the coast of California in 1542 and was followed in 1602 by Sebastian Vizcaino (Bean and Rawls 1993). The Spanish colonization of what was then known as Alta California began with the 1769 overland expedition led by Gaspar de Portolá with a crew of 63 men in order to explore the land between San Diego and Monterey (Fox 1979). Between 1769 and 1822 the Spanish had colonized California and established missions, presidios, and pueblos and documented the people and landscape along the way (McCawley 1996).

Portola and his expedition crossed the area north of Lake Forest in July 1769, naming the perennial creek that empties from the Santa Ana Mountains "*aliso*", the Spanish work alder; an error on the Spanish identifier, since they were in fact, referring to the sycamore tree, which still grow along the creek. It should be noted that the Juaneño term for the creek was *Seeevenga*, meaning "at the sycamores" (O'Neil 1988). However, historically, alder and sycamore trees were much more prominent, particularly in the riparian and floodplain areas where an oak-woodland habitat existed. During the Mission period, many of the trees along the creek, including alder, oak, sycamore, and other species were cut down for the construction of ships and structures, charcoal production, and other uses (Nasser 2003).

Following the Portolá Expedition, vast tracts of land were granted to the Missions. The seventh of the Franciscan missions in California was Mission San Juan Capistrano, founded in 1776; shortly after Portolá's visit to the area. The goals of the missions were tri-fold: they helped establish a Spanish presence on the west coast, allowed for a means to Christianize the native peoples, and served to exploit the native population as laborers. The Spanish also hoped each mission would become a town center, whereas, "the pueblo would receive a ground of four square leagues of land… and other property would be parceled out among the Indians." The missionaries, or padres, would essentially serve as a mayor, or head of the town (Bean 1978:29-30).

Portions of Irvine lie within the boundaries of Rancho Santiago de Santa Ana (Figure 4). The Rancho Santiago de Santa Ana was given to Jose Antonio Yorba and his nephew Pablo Peralta in 1810 by Governor José Joaquin de Arrillaga on behalf of the Spanish Government. This grant was extremely rare at this time and was the only land grant in present-day Orange County to be given under Spanish Rule. The grant consisted of the lands east of the Santa Ana River to the Santa Ana Mountains. The land was originally petitioned for by Juan Pablo Grijalva, who was a Spanish soldier that had travelled to California with the De Anza expedition. He died before the grant was approved, which resulted in the land being granted to his son-in-law (Yorba) and grandson (Peralta).

Mexican Period

In 1821 Mexico won its independence from Spain and worked to lessen the wealth and power held by the missions. The Secularization Act was passed in 1833, appropriating the vast mission lands to the Mexican governor and downgrading the missions' status to that of parish churches. The governor then redistributed the former mission lands, in the form of land grants, to private owners (Bean and Rawls 1993; Robinson 1948). The lands were typically granted to soldiers who proved their loyalty to the Mexican government once liberated from the Spanish crown.

In addition to the land granted for the Rancho Santiago de Santa Ana under the Spanish Government, additional land grants were given by the Mexican government including Rancho San Joaquin and Rancho Lomas de Santiago (Figure 4). The Rancho San Joaquín land grant was a combination of the Rancho Cienega de las Ranas and the Ranch La Bolsa de San Joaquín. This land grant was issued to José Antonio Andrés Sepúlveda in 1837 and 1842, respectively. The Spanish *Cienega de las Ranas* means "marsh of the frogs" and *bolsa* means "pocket", and together refers to a wetlands area. Rancho Lomas de Santiago was granted to Teodosio Yorba by the Mexican Governor Pío Pico in 1846. Teodosio was the son of Jose Antonio Yorba, who was granted Rancho Santiago de Santa Ana

American Period

Following the cession of California to the United States after the Mexican-American War, the Treaty of Guadalupe Hidalgo in 1848 ensured that the land grants would be honored. In 1852 a claim for Rancho Santiago de Santa Ana was filed with the Public Land Commission as required by the Land Act of 1851, and the grant was patented to Bernardo Teodoro and Ramón Yorba in 1883. The Yorba family sold the Rancho to José Antonio Andrés Sepúlveda in 1854 and Sepúlveda later lost the lands due to bankruptcy caused by trying to uphold his land claims in court. Sepúlveda also filed a land claim for Rancho San Joaquin in 1852, which was patented to José Sepulveda in 1867. In 1864 Sepúlveda sold his lands to Benjamin and Thomas Flint, Llewellyn Bixby and James Irvine.

In 1876, James Irvine bought out his partners in Flint, Bixby and Co. and became the sole owner of the Irvine Ranch. It continued to be largely a ranching operation for many years. James Irvine and James McFadden played pivotal roles in the history of the City of Irvine. James Irvine was the largest landholder in the region and was interested in identifying the most lucrative agricultural uses for the enormous tract of land. When he died in 1886, James II took control of the ranch and increased its agricultural production. In 1894 James Irvine II incorporated the land holdings as the Irvine Company.

In 1899, the newly formed San Joaquin School District approached James Irvine with the intent to build a school for the children of his ranch tenant. A spot was chosen, upon which the school house was raised. In 1911, the school and land upon which it resided was donated by Irvine to Orange County. By this point 100 pupils were enrolled in the school. The same year in 1899, a post office was opened in a boarding house across the street from the school. Irvine named the post office "Myford" after his young son (Liebeck 1990, Figure 5).

In 1909, Frederick Culver received Irvine's permission to build a blacksmith shop near the ranch's warehouse operations. The shop was used to maintain farm machinery as well as making buggy parts, wagon wheels, and horseshoes. By the beginning of the 20th century Irvine set aside 320 acres at the intersection of the Santa Fe Railroad tracks and Central Avenue for the purpose of developing a town for the residence of both his permanent and seasonal workers. In 1914, the Orange County town of Myford was renamed "Irvine" (Liebeck 1990).

While already the number one producer of lima beans in the world, the Irvine Ranch's bean production reached its zenith during the First World War. In 1918, the ranch contained 60,000 acres of lima bean fields which produced 900,000 sacks equating to a total value of $6 million. After WW1, the 1920s saw significant changes to the Irvine Ranch. The Irvine Service Station was enlarged to accommodate the area's growing car culture and the town initially planned by Irvine saw an increase in housing for workers.

The Second World War saw to the end of the Irvine's "Agricultural Empire" (Liebeck 1990). Seeking a site for the Navy's air operations the Santa Ana Chamber of Commerce chose the Irvine Ranch's prime 17,000-acre lima bean field. Despite Irvine's attempts to offer the Navy alternative sites on his ranch the Navy refused and continued with the purchase of Irvine's two of the best pieces of agricultural land. This resulted in the establishment of the El Toro Marine Corps Air Station and the Tustin Lighter-Than-Air base. The Navy's purchase of Irvine's land allowed for the Orange County Assessor's Office to reassess the ranch's property value. Up to this point, the ranch has paid a tax base far below those of other county lands and with the reassessment this advantage was soon removed (Liebeck 1990).

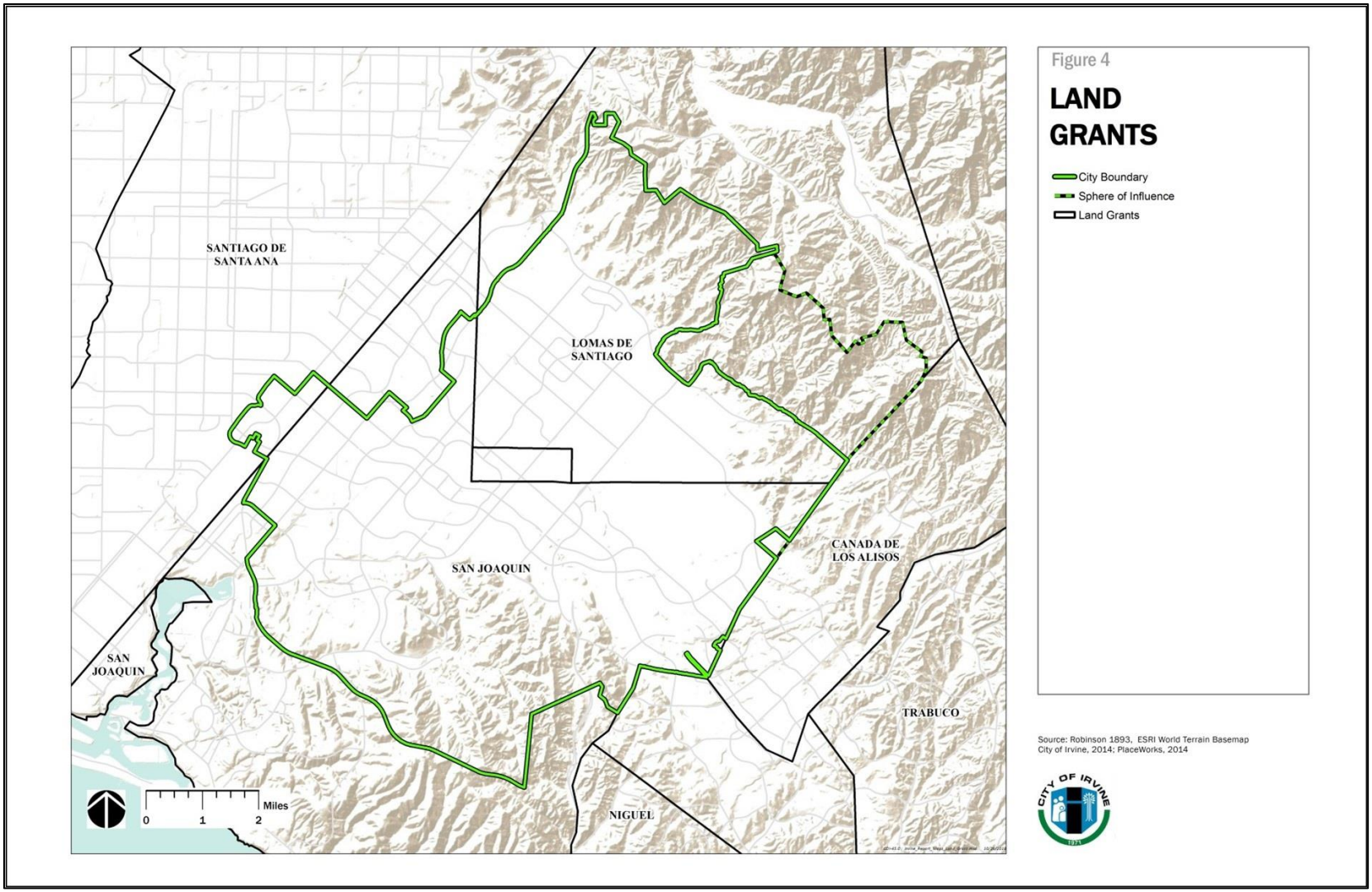

Figure 4. Map of Land Grants

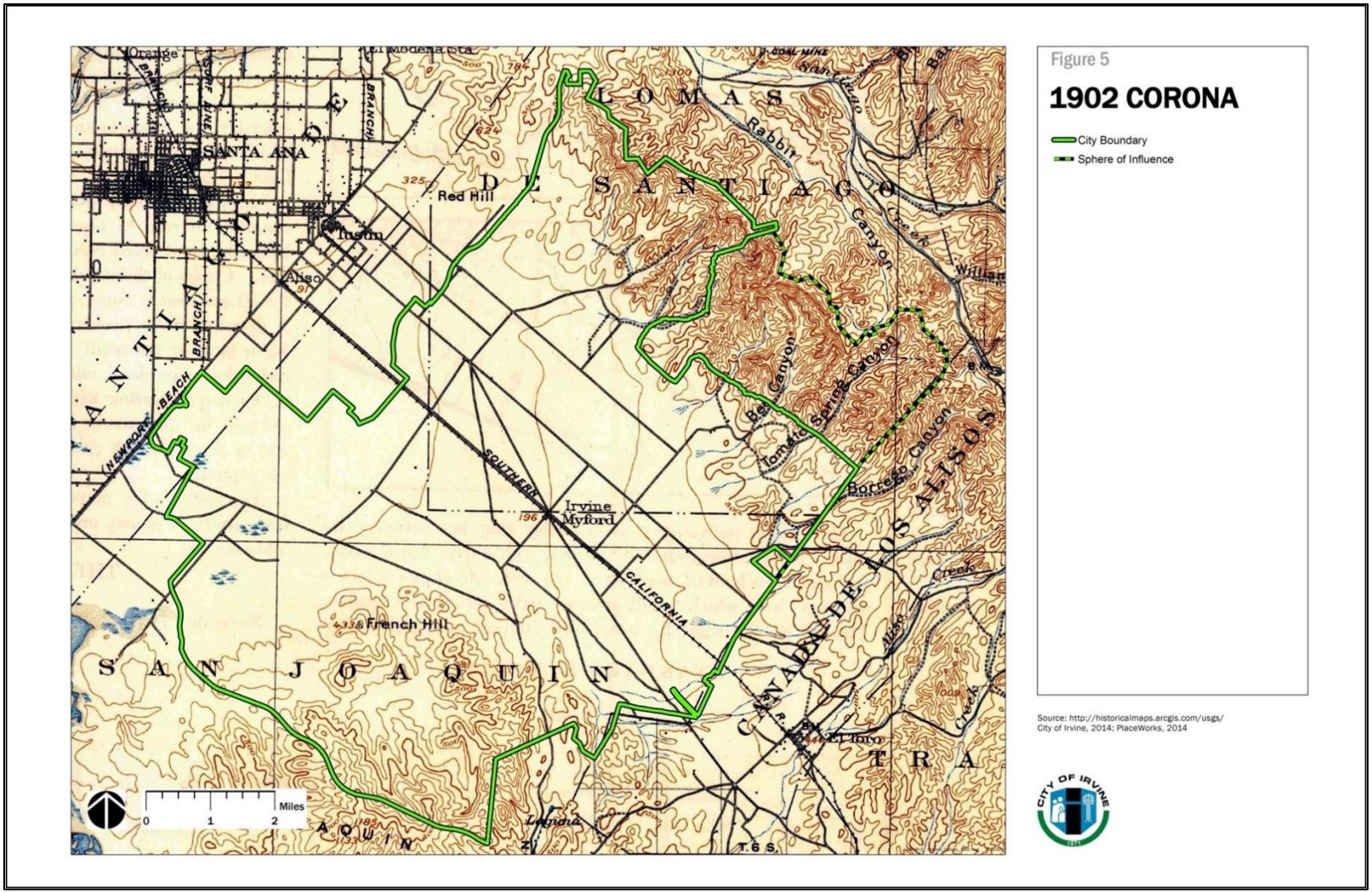

Figure 5. 1902 Corona Topographic Map

While the Irvine Ranch would continue to produce food for the war effort significant damage was incurred upon the fields surrounding the Tustin and El Toro bases as planes and rescue vehicles would cut through, tearing the crops to shreds (Liebeck 1990).

Modern Period

As a result of the Second World War pressure mounted towards the development of urban areas in California. However, private farm owners such as the Irvine Company kept developers away from the central and south county. However, after James Harvey Irvine, Sr.'s death on August 24, 1947, control of The Irvine Company fell to his last remaining child Myford Plum Irvine. Unlike his predecessors, Myford did not have a passion for farming. Instead, Myford was interested in the development of residential communities. Under his guidance, Cameo Highlands, Irvine Terrace, Harbor View Hills, Cameo Shores, Westcliff Batcrest, and Irvine Cove in Laguna were developed (Liebeck 1990)

In 1957, Myford granted the first industrial lease on the Irvine Ranch to the Philco Corporation, a subsidiary of the Ford Motor Company. In 1957, representatives of the firm Pereira & Luckman were commissioned by the regents of the University of California System (U.C.S) to scout out possible locations for a new University as a reaction of major shifts in population towards southern Los Angeles. The firm decided on the Irvine Ranch as a choice location and intense negotiation underwent between the Irvine Company and regent of the U.C.S. (Liebeck 1990).

On January 11, 1959, Myford was found shot to death in the basement of the Irvine family home. The day of Myford's funeral Arthur McFadden was elected president of The Irvine Company. Under this new leadership, the company saw greater profit in the real-estate market and thus transitioned into full-scale property development (Liebeck 1990)

In 1960, the Irvine Company gifted 1,000 acres of land to the University of California with a provision for the sale of an additional 500 acres. The establishment of the University provided a central focus around which the company would create a master plan for the Irvine Ranch. To create this master plan, The Irvine Company hired William Pereira & Associates. The intent of Pereira was to prevent uncontrolled suburbanization of Ranch property and to keep out outside developers (Liebeck 1990).

Pereira divided the ranch into three sections: north, central, and south. The central section represented prime agricultural land, the north contained a remote mountainous region, and the southern basin. The southern basin was considered the top priority of urban development as it ran from the coast to the alignment of the 405 (San Diego) Freeway. Development of each community underwent meticulous planning as each "village" would include its own churches, shopping centers, and schools. The same attention to detail was utilized in master land-use plan in the development of the Irvine Industrial Complex and the Newport "downtown" Center.

Pereira's plan for the university outlined the campus as a large wheel. The park would include a lake and an amphitheater as "the focus of university life." The University of California at Irvine was dedicated on June 20, 1964. (Liebeck 1990)

In September 2, 1965, the "Old" Irvine town started by James Irvine at the turn of the century was renamed "East Irvine." At this time, much for the agricultural land on the ranch was being converted into housing tracts. Multiple electronic firms, aerospace companies, and research and development companies made their way to the Irvine Industrial Complex. Thousands of new job opportunities emerged and as many wealthy white-collar employees arrived so increased the need for comfortable residential neighborhoods. (Liebeck 1990)

In 1971, the Irvine Company campaigned for cityhood and in that same year the city of Irvine was incorporated. The new city's council's first act was to temporarily freeze all new development project within the city to reevaluate and revise the master plan. A consulting firm was hired to assist in the drafting of the 1973 Irvine General Plan. The following plan emphasized an increase in cycling, hiking, and equestrian trails, reduce car dependency, and increase access to recreational facilities. (Liebeck 1990)

In 1977, the Irvine Historical Society was formed and sought to protect historic structures on the Irvine Ranch. By 1981, the Irvine Historical Society discussed plans on the preservation of East Irvine. By 1990, after a series of buy-outs and lawsuits, the involvement of the Irvine family in the Irvine Company ceased when Joan Irvine Smith and her daughter Athalie Clark received $149 million for their remaining shares in the company from Donald Bren. (Liebeck 1990)

According to the 2020 census, 307,665 people lived within the City. The census indicates that in 2020 Irvine had a total of 110,465 households. (U.S. Census Bureau n.d.)

RECORD SEARCHES AND LITERATURE REVIEW

PALEONTOLOGICAL

A search for paleontological records was completed by the Natural History Museum of Los Angeles County (LACM; McLeod 2018a; Appendix B). Published literature, unpublished paleontological reports, and fossil databases were also searched for fossil records (Appendix C). Databases included the Orange County Paleontology Database (OCPC 2018), the Paleobiology Database (PBDB 2018), the San Diego Natural History Museum (SDNHM 2018), and the University of California Museum of Paleontology (UCMP 2018).

A deficit in the data reported here was created by closure of the John D. Cooper Center by the County of Orange in May 2018. More recently, the former Cooper Center re-opened as the John D. Cooper Laboratory, and a record search request was submitted on April 18, 2023. Unfortunately, the Cooper Lab has not responded to our request as of this reporting. The Cooper Lab maintains the database of fossils recovered in the County that we are not able to access. We list fossils by scientific and common name in Appendix C. When available, data of the location where the fossils were collected have been included. Please note that many entirely marine formations contain small numbers of land animal and plant fossils that were washed down streams into the ocean.

Sediments that are geologically young (artificial fill, Holocene sediments) or heat altered (El Modeno Volcanics) do not contain fossils. Landslides of any age may contain fossils; however, sediment jumbling makes it frequently difficult to determine stratigraphic context. This results in variable significance of the specimens. The rest of the formations have produced fossils from within the City. In some cases, the units or members were not listed in the literature or databases. Formations are discussed from oldest to youngest.

Williams Formation. Two localities are known from the Pleasants Sandstone Member and 53 are known from the undifferentiated sediments. These have produced marine invertebrates including ammonites, crabs, bivalves, gastropods, sea urchins, and sand dollars. Marine vertebrates known are including sharks, fishes and turtles. Plant fossils including wood and leaves have also been recovered.

Silverado Formation. Two localities are known within the City. These produced a sea tortoise and a leaf, possibly of a willow.

Santiago Formation. Within the City, one locality is known based on currently available information. It produced fossils of a crocodile and plants.

Sespe-Vaqueros Formation. A minimum of 38 localities are known within the City. These have produced marine vertebrates including baleen whales, toothed whales, fishes, sharks and rays. Marine invertebrates include brachiopods, bivalves, gastropods, crabs, and sand dollars. Terrestrial vertebrates known are rodents, shews, birds, snakes and lizards. Plant fossils include wood, palm fronds and tree leaves.

Vaqueros Formation. Eight localities are known within the City based on information currently available. These have produced baleen whale, bivalves, and gastropods.

Topanga Group. A minimum of three localities are known in the City. They have produced fossils of fishes, sharks, sea urchins, algae, and terrestrial leaves.

Monterey Formation. Localities within the City number 28. These localities have produced vertebrate fossils of baleen and toothed whales, pinnipeds, fishes, and sharks. Invertebrates known include marine bivalves and crabs. Tree leaves of many species are also known.

Puente Formation. A minimum of three localities are known in the City. These have produced fishes and terrestrial leaves.

Capistrano Formation. Three localities are known in the City. These localities have produced fossils of baleen whale, sea cow, walrus, and fur seal.

Niguel Formation. Two localities are known from the Niguel Formation within the City. These localities have produced fossils of fish, sharks, and marine invertebrates.

Pleistocene deposits. These fossils are listed by time period due to lack of geological detail in most records which would permit discussion by sediment unit. About forty localities are known based on currently available information. Abundant terrestrial fossils have been recovered from the San Joaquin Marsh area between MacArthur Blvd, Highway 405, and San Diego Creek. These localities have produced fossils of mammoth, mastodon, giant ground sloth, ancient bison, horse, tapir, camel, llama, diminutive pronghorn, dire wolf, coyote, bear, American lion, and saber-toothed cat along with bats, rodents, birds, reptiles, and amphibians. Additionally, six localities within the City have produced marine bivalve invertebrates from approximately 60 feet deep just north of Jamboree and Michelson (Cogstone 2018).

CULTURAL

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM

The purpose of the records search is to identify all previously recorded cultural resources (prehistoric and historic archaeological sites, historic buildings, structures, objects, or districts) within the Project Area. All cultural resources, as well as cultural resource surveys, performed within the city boundaries were reviewed.

Shannon Lopez performed a search for archaeological and historical records on the September 24 and 25, 2018 at the South Central Coastal Information Center (SCCIC) of the California Historical Resource Inventory System (CHRIS) located on the campus of the California State University, Fullerton. The record search covered the entire area within the boundaries of the City of Irvine. The search radius included El Toro, San Juan Capistrano, Laguna Beach, Tustin, Orange, and Black Star Canyon 7.5-minute topographic quad maps.

The results of the record search indicated that 647 prior studies were located within the City (Appendix D). The records search also determined 379 previously recorded cultural resources are located within the City boundaries, which are summarized in the tables below (Table 4; Appendix E).

Table 4. Cultural Resources within the City of Irvine by Type

Resource Type	Quantity
Prehistoric Site	216
Prehistoric Isolate	85
Multi-Component Site	9
Multi-Component Isolate	1
Unknown Isolate	1
Historic Resource	62
Historic Site	2
Historic Isolate	3
Grand Total	**379**

Well known prehistoric villages were centered around Turtle Rock and Tomato Springs but others were numerous in the marsh, hills and mountains. Historic resources by contrast are mostly on the plain and include Mexican period resources like the Don Jose Sepulveda adobe, American period resources like the San Joaquin Gun Club and early 20th century buildings including homes.

OTHER SOURCES

In addition to the SCCIC records search, a variety of sources were consulted in October 2018 to obtain information regarding the cultural context of the City of Irvine. Sources included the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR) which includes the California Historical Resources Inventory (CHRI)[1], California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). The Bureau of Land Management (BLM) General Land Office records were also searched.

Four buildings within the City are listed on the NRHP and the CRHR (Table 8). Eight properties are listed on the CHRI (Table 5). One area has a CHL plaque (Table 8). Three areas have CPHI plaques. The Orange County Parks lists the Irvine Ranch Historic Park. The City of Irvine lists 19 historically important properties.

Table 5. Additional Sources Consulted

Source	Results
Historic USGS Topographic Maps	Positive. See historic setting section.
Historic US Department of Agriculture Aerial Photographs	Positive. See historic setting section.
National Register of Historic Places (NRHP)	Positive: (1) NRL#:77000319, "Frances Packing House", Listed 8/2/1977. (2) NRL#: 86000068, "Irvine Bean and Growers Association Building", Listed 1/13/1986. (3) NRL#: 86000452, "Irvine Blacksmith Shop", 3/20/1986. (4) NRL#: 93000300, "Christ College Site", 4/16/1993.
California Register of Historic Resources (CRHR)	Positive: (1) "Frances Packing House", (2) "Irvine Bean and Growers Association Building",. (3) "Irvine Blacksmith Shop", (4) "Christ College Site".
California Historical Resource Inventory (CHRI)	Positive: (1) Tustin USAR Center, 1963; (2) Christ College Site; (3) Val Verde Sportsmen's Club, 1924; (4) The Echberria Home, 1925; (5) Buffalo Ranch/ Urnabus Square, 1962; (6) Agricultural Shed, 1930; (7) Transi Housing; Irvine Hotel, 1913; (8) South Coast Gun Club, 1945
California Historical Landmarks (CHL)	Positive: Plaque #: 1004 "Old Town Irvine", Listed 11/8/1991.
California Point of Historical Interest (CPHI)	Positive: (1) Plaque #: P753, "Irvine Bean and Grain Growers Building", Listed 8/8/1991. (2) Plaque #: P630, "Irvine Historical Society Museum/ Rancho San Joaquin Headquarters., Listed 5/31/1984. (3) Plaque #:P485, "Irvine Park", Listed 9/1/1976.
County of Orange	Positive: OC Parks: Irvine Ranch Historic Park.
Irvine Historic Resources List	(1) Lambert Reservoir, (2) First Irvine Office/ Ranch Headquarters, (3) Irvine Family Home Site and Gardens, (4) C.F. Kraus Residence, (5) Irvine Employee Housing, (6) Irvine Community Center/ Public School, (7) Irvine Bean Warehouse, (8) East Irvine Garage and Service Station, (9) A.T.S.F. Station, (10) East Irvine Post Office/ General Store/ Blacksmith Shop, (11) Dirigible Hangars "Lighter Than Air" Base, (12) Live Oaks-Laguna Canyon Road, (13) Site of Michelson Vacuum Tube (Speed of Light Experiments), (14) First Home in University Park, (15) French Hill-AKA, Turtle Rock, (16), Martin Airport (original site of Orange County Airport), (17) San Joaquin Marsh/Peat Bogs, (18) Bommer Canyon Cattle Camp, (19) Urbanus Square (Old Buffalo Ranch).

[1] The CHRI has been replaced by the California Built Environment Resource Database (BERD)

SENSITIVITY

PALEONTOLOGICAL SENSITIVITY

Previous City documents used a four-tiered ranking system to assess the sensitivity of sediments for fossils (General Plan Element E). Using the City's system, geologic units are classified according to the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts within the known extent of the geological unit (Table 6, Figure 6). Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher potential; instead, the relative abundance of localities is intended to be the major determinant for the value assignment. Thousands of fossils have been recovered within the City boundaries.

The Vaqueros, Sespe-Vaqueros, Sespe, Monterey, Puente and Capistrano Formations are assigned a high sensitivity. Formations assigned a moderate sensitivity include the Williams Formation Pleasants Sandstone Member, the Santiago Formation, the Topanga Group, the undifferentiated Puente Formation, and the Pliocene Niguel Formation.

Pleistocene sediments generally lie beneath young sediments with no fossils. Shallow excavations should not impact Pleistocene fossils. Because the presence of Pleistocene fossils has been demonstrated we have ranked the sediments as moderate.

The Silverado Formation has a low sensitivity along with young sediments. The El Modeno Volcanics and artificial fill are assigned no sensitivity (Table 6).

All three Focus Areas are mapped as moderate sensitivity for fossils with small areas of high sensitivity in Focus Areas 2 and 3.

Table 6. Paleontological Sensitivity Rankings

Age	Unit Name		City Paleontological Sensitivity Zones			
			none	low	moderate	high
modern	artificial fill (Qaf)		X			
late Holocene	very young landslide (Qls, Qls?)			X		
	very young slope wash (Qsw)			X		
Pleistocene	unlisted			X[1]		
late Pleistocene to Holocene	young axial-channel (Qya)			X[1]		
	young colluvium (Qyc)			X		
	young alluvial-fan (Qyf)			X[2]		
	young landslide (Qyls?)			X		
middle to late Pleistocene	old paralic and alluvial fan (Qopf)			X[1]		
early to middle Pleistocene	very old axial-channel (Qvoa)			X[1]		
	very old alluvial-fan (Qvof)			X[2]		
Pliocene	Niguel Fm. (Tn)				X	
late Miocene to early Pliocene	Capistrano Fm., Oso Mbr. (Tco)			X[1]		X
late Miocene	Puente Fm	La Vida Mbr. (Tplv)				X
		Soquel Mbr. (Tpsq)			X	
		unlisted			X	
	Monterey Fm. (Tm)				X	
middle Miocene	Topanga Group	Paulerino Fm. (Ttp)			X	
		Los Trancos Fm. (Ttlt)			X	
		Bommer Fm. (Ttb)			X	
		unlisted			X	
	El Modeno Volcanics (Tiemd, Tiemd?)		X			
latest Oligocene to latest early Miocene	Vaqueros Fm. (Tv)					X
	Sespe-Vaqueros Fm. (Tvs)					X
late Eocene to early Miocene	Sespe Fm. (Ts)					X
middle Eocene	Santiago Fm. (Tsa)				X	
Paleocene	Silverado Fm. (Tsi)			X		
Late Cretaceous	Williams Fm., Pleasants Sandstone Mbr. (Kwps)				X	

Fm. - Formation

Mbr. - Member

[1] Indicates that the unit has low sensitivity at depths of less than 8 feet.

[2] Indicates that the low sensitivity in Mtns and increases to moderate sensitivity on the plain.

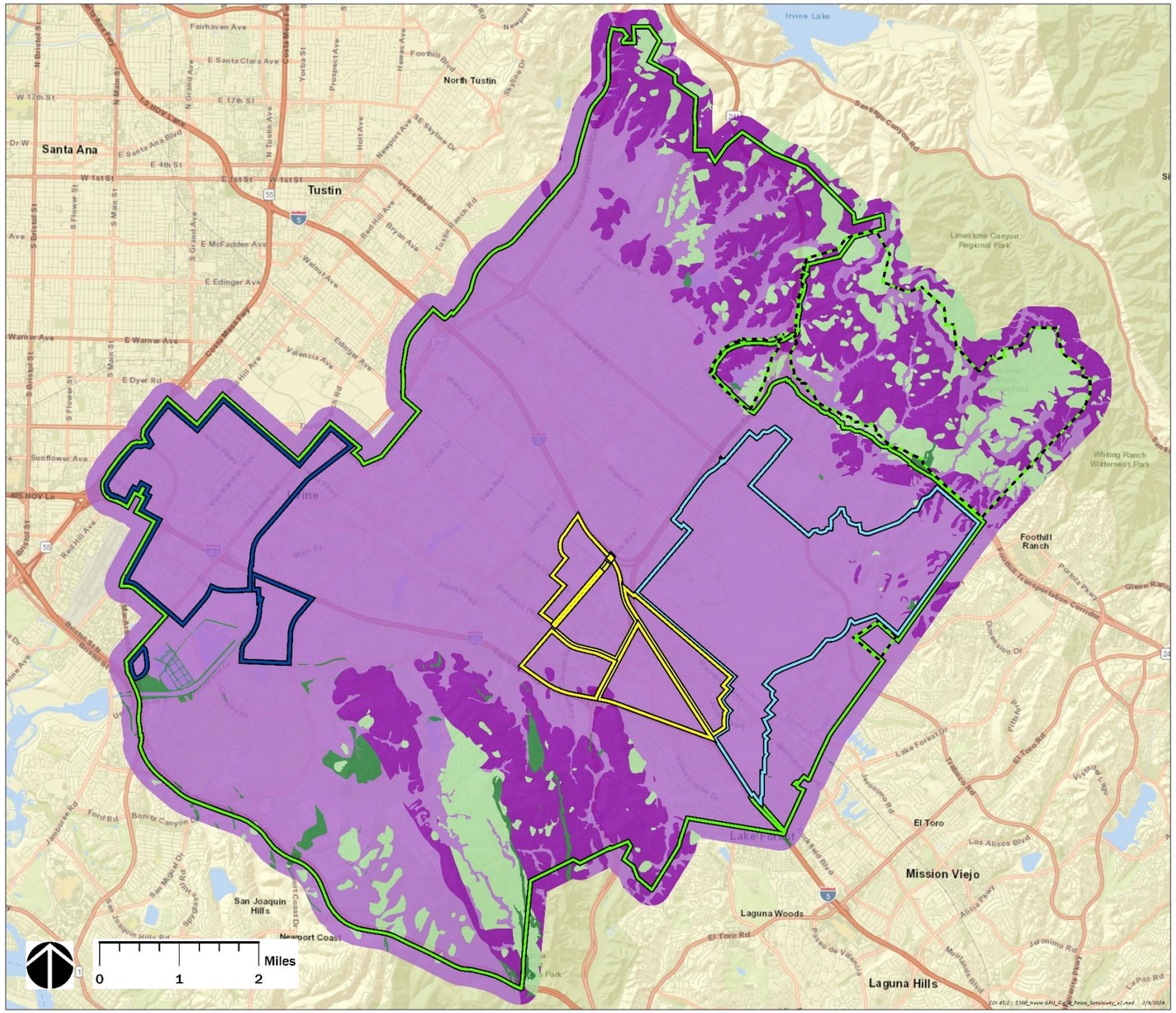

Figure 6

PALEONTOLOGICAL SENSITIVITY

- Focus Area 1
- Focus Area 2
- Focus Area 3
- Sphere of Influence
- City Boundary

Paleontological Sensitivity

- None
- Low
- Moderate
- High

Source: Morton and Miller 2006
City of Irvine, 2014; PlaceWorks, 2014

Figure 6. Paleontological Sensitivity of the City

ARCHAEOLOGICAL SENSITIVITY

Prehistoric site locations are confidential to protect them from vandalism. All known sites were mapped to help establish sensitivity rankings. Prehistoric sites are most abundant in the San Joaquin Marsh area and San Joaquin Hills, both south of Interstate 405 (I-405). Sites are also abundant along what were, at the time, permanent water sources such as creeks and springs northeast of Irvine Blvd. Only ten sites are known on the plain between I-405 and Irvine Blvd. On this basis we rank the areas south of I-405 and north of Irvine Blvd. as highly sensitive and the plain in between as less sensitive (Figure 7). All known sites have been mitigated. Unknown resources may be present.

Only two historical archaeological sites have been recorded in Irvine. Both are in the eastern portion of the City and consisted of historic domestic refuse. Due to the low number of sites, no sensitivity map was created.

Portions of Focus Areas 1 and 3 are mapped as highly sensitivity for prehistoric archaeological sites. Focus Area 2 is mapped entirely as less sensitive for prehistoric archaeological sites.

HISTORICAL SENSITIVITY

Historical resources include current and former locations of historic buildings, historical archaeological sites (often near historic use areas) and the location of extant historic homes more than 45 years old (Figure 8). Old Town Irvine has the highest number of historic buildings. Other resources north of I-405 include the railroad, a eucalyptus windbreak, Valencia Growers Packing House and the Irvine Agricultural Headquarters Complex. South of I-405 they include the Rancho San Joaquin Adobe, the San Joaquin Gun Club, Phineas Banning House, Bommer Canyon Cattle Camp and Barton's Mound. Only those that have been determined to be significant under CEQA are mapped (Figure 8).

All Focus Areas have historical resources located within their boundaries. Focus Area 2 has the most resources due to Old Town Irvine's location within its boundary. Focus Area 1 includes concentrated areas of buildings 45 years or older.

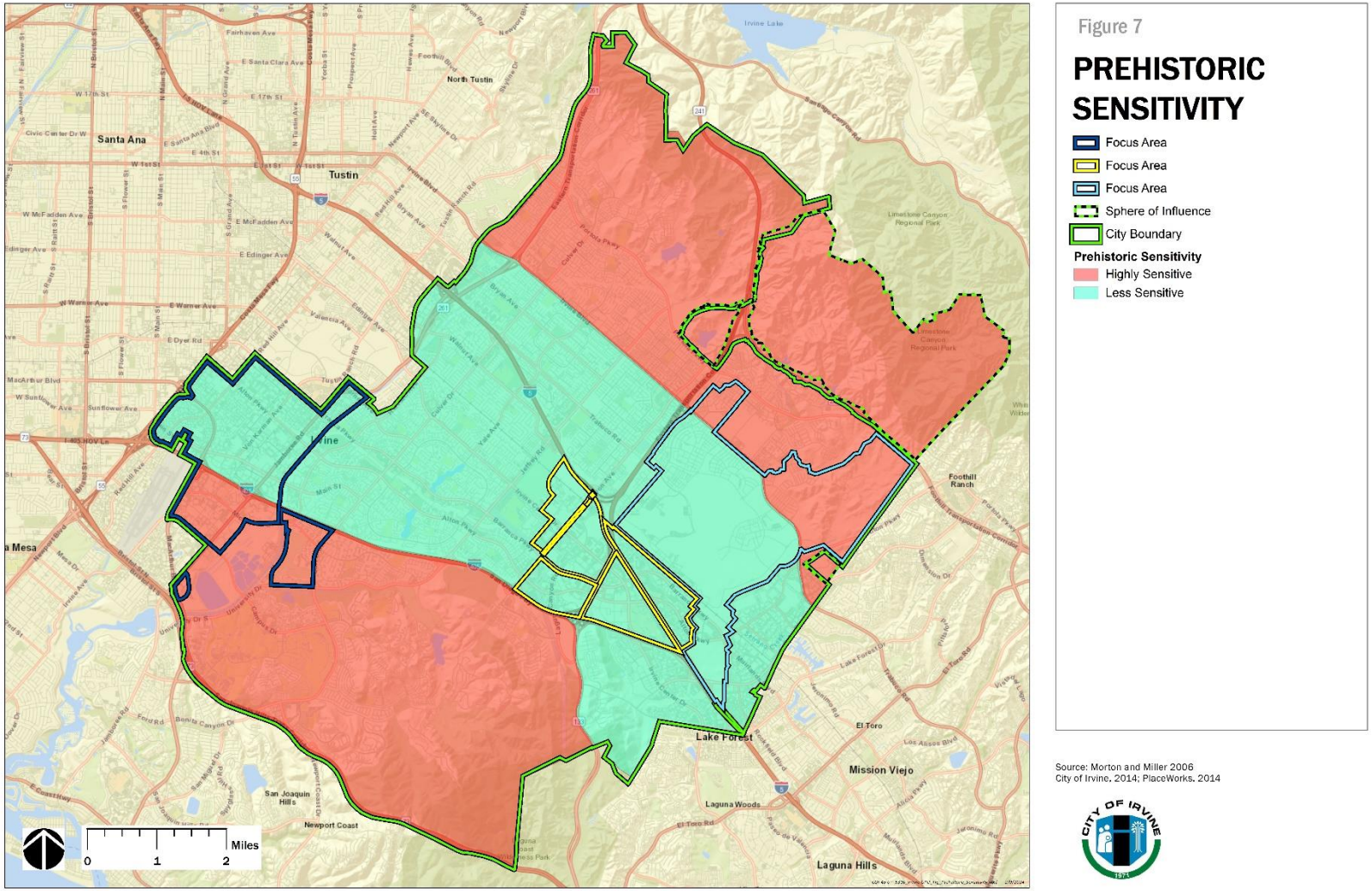

Figure 7. Prehistoric Sensitivity

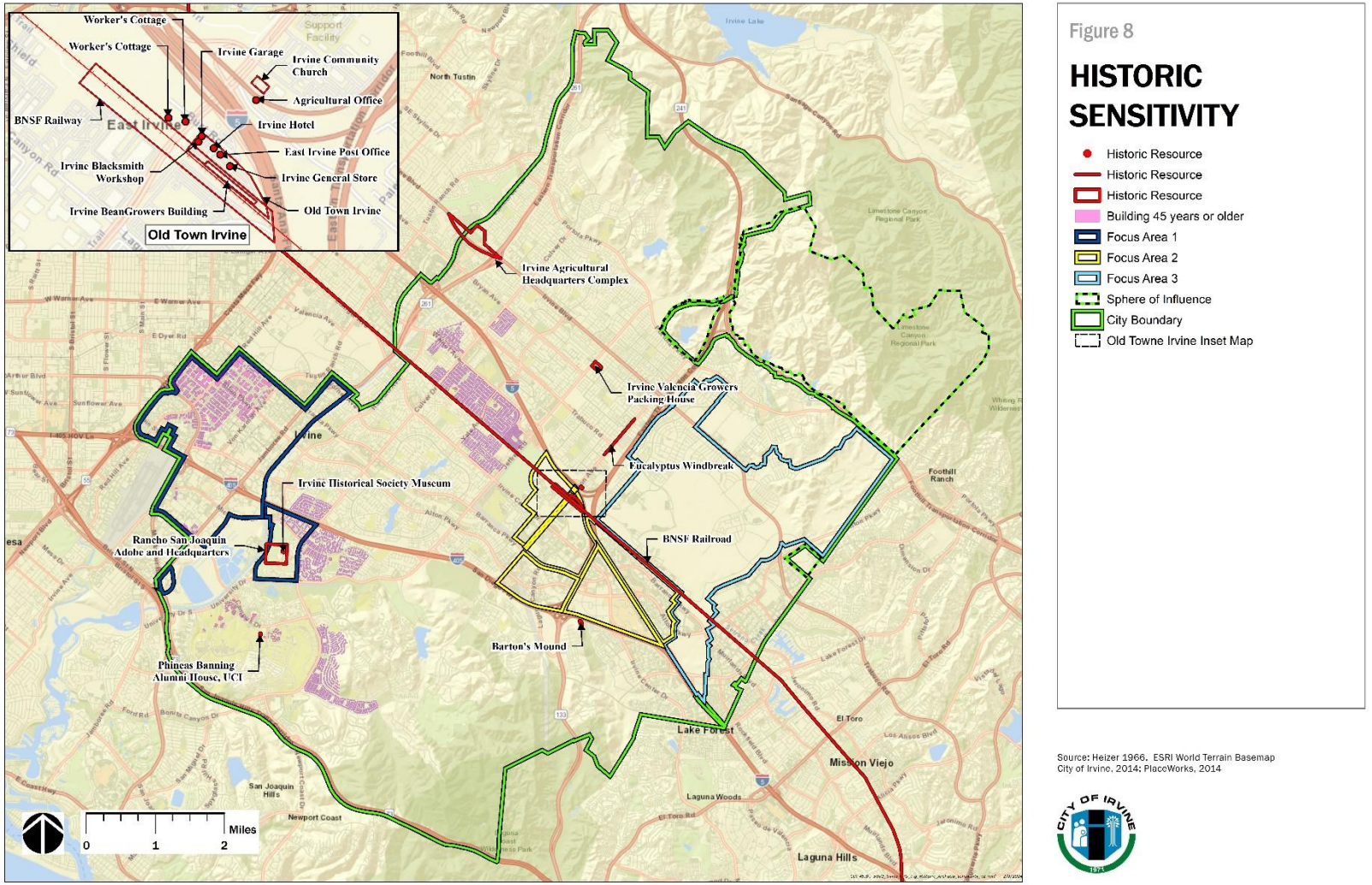

Figure 8. Historic Resources Sensitivity

MITIGATION MEASURES

Future proposed projects within the City of Irvine have the potential to impact paleontological and cultural resources. The following mitigation measures are recommended.

MM GEO-1. City staff shall require applicants for future proposed ground disturbing projects in undisturbed sediments ranked moderate or above to either (1) provide a technical paleontological assessment consisting of a record search, survey, background context and project specific recommendations performed by a qualified paleontologist (with a graduate degree and a specialization in vertebrate paleontology) or (2) agree to monitoring all excavations below five feet. If resources are known or reasonably anticipated the recommendations shall provide a detailed mitigation plan requiring monitoring during grading and other earthmoving activities in undisturbed sediments. The plan will establish a fossil recovery protocol that includes data to be collected, requires professional identification, radiocarbon dates and other special studies as appropriate and requires curation at local curation facility such as such as the John D. Cooper Center operated by the County of Orange for fossils meeting significance criteria. A comprehensive final mitigation compliance report including a catalog of fossil specimens with museum numbers and an appendix containing a letter from the museum stating that they are in possession of the fossils shall be required.

MM CUL-1. City staff shall require applicants for future proposed projects with intact extant building(s) more than 45 years old to provide a historic resource technical study evaluating the significance and data potential of the resource. If significance criteria are met, detailed mitigation recommendations are required as part of the technical study. All work shall be performed by a qualified architectural historian meeting Secretary of the Interior Standards.

MM CUL-2. City staff shall require applicants for future proposed ground disturbing projects to either (1) provide a technical cultural resources assessment consisting of a record search, survey, background context and project specific recommendations performed by a qualified archaeologist meeting Secretary of the Interior Standards and certified by the County of Orange or (2) agree to full-time monitoring by an archaeologist and a Native American. If resources are known or reasonably anticipated the recommendations shall provide a detailed mitigation plan which shall require monitoring during grading and other earthmoving activities in undisturbed sediments. The plan will provide a treatment plan for potential resources that includes data to be collected, requires professional identification, other special studies as appropriate, and requires curation at a repository for artifacts meeting significance criteria. A comprehensive final mitigation compliance report including a catalog of specimens with museum numbers and an appendix containing a letter from the museum stating that they are in possession of the materials shall be required.

MM CUL-3. Unanticipated discoveries of human remains shall require immediate cessation of ground disturbance within 50 feet and notification to City staff and the Coroner and shall follow state law as stated in Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98.

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APPENDIX A. QUALIFICATIONS

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

MOLLY VALASIK
Principal Investigator for Archaeology

EDUCATION

2009 M.A., Anthropology, Kent State University, Kent, Ohio
2006 B.A., Anthropology, Ohio State University, Columbus, Ohio

EXPERIENCE

Ms. Valasik serves as Cogstone's CEO and CFO and helps guide the vision and direction of Cogstone. She has been with the company since 2009 and has helped transition Cogstone from sole ownership to multiple owners with an active board of directors. Ms. Valasik is a Registered Professional Archaeologist (RPA) with 15 years of experience. She is a skilled professional who is well-versed in the compliance procedures of the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), and Sections 106 and 110 of the National Historic Preservation Act (NHPA) and regularly prepares cultural resources assessment reports for a variety of federal, state, and local agencies throughout California. Ms. Valasik has managed a variety of projects at Cogstone in the water, transportation, energy, development, and federal sectors. She meets the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation*. She is accepted as a Principal Investigator for prehistoric archaeology by the State Historic Preservation Office (SHPO) and is listed as a Principal Investigator on Cogstone's Bureau of Land Management (BLM) Cultural Resource Use Permit.

SELECTED PROJECTS

Laguna Niguel General Plan Update, City of San Juan Capistrano, Orange County, CA. Cogstone reviewed and summarized available information regarding known paleontological, archaeological, and historical resources within the City of Laguna Niguel to support the General Plan Update Project. Cogstone conducted a Sacred Lands File search from the Native American Heritage Commission (NAHC), cultural and paleontological resources records searches, and consultation with local historical societies. A Cultural and Paleontological Resources Assessment report was prepared that outlined culturally sensitive areas within the city and included recommendations for mitigation. The City of San Juan Capistrano was the lead agency under the California Environmental Quality Act (CEQA). Sub to De Novo Planning Group. Project Manager. 2023

Camino Capistrano Mixed-Use Project, City of San Juan Capistrano, Orange County, CA. Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources during the project, which consisted of the retention and rehabilitation of two National Register of Historic Places (NRHP)-listed adobe buildings; reconstruction of a contributing barn that was recently dismantled and stored onsite; removal, offsite relocation, and rehabilitation of a second contributing barn that is extant; and the construction of three new buildings. The project area and vicinity are known to be archaeologically sensitive areas. Cogstone's services included records searches, a Sacred Lands File search from the Native American Heritage Commission (NAHC), a pedestrian survey, and the preparation of a Cultural and Paleontological Resources Assessment Report. Site updates were prepared on California Department of Parks and Recreation (DPR 523) forms for the two previously recorded adobe buildings. The City of San Juan Capistrano was the lead agency under the California Environmental Quality Act (CEQA). Sub to 31871 Camino Capistrano LLC. Principal Archaeologist. 2023-*ongoing*

City of San Juan Capistrano, In-N-Out 31791 Del Obispo Street, San Juan Capistrano, CA. Cogstone conducted a Historic Resources Project Review to determine potential impacts to historical resources resulting from the proposed construction of a 3,897 square foot In-N-Out Restaurant with a drive-through and related site improvements on two adjoining lots totaling 1.77 acres. Cogstone's services included a cultural resources records search, built environment survey, updates to existing DPR 523 forms, National Register of Historic Places (NRHP) eligibility assessments, and preparation of a Historic Resource Project Review Report. Cogstone also reviewed design plans of the proposed commercial building for compatibility with the NRHP-listed Blas Aguilar Adobe and attended an in-person public hearing with the public and the San Juan Capistrano Cultural Heritage Commission. The assessment was completed in compliance with the requirements of CEQA with the City of San Juan Capistrano as the lead agency under CEQA. Project Manager. 2021

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

KIM SCOTT
Principal Investigator for Paleontology

EDUCATION

2013 M.S., Biology with a paleontology emphasis, California State University, San Bernardino
2000 B.S., Geology with paleontology emphasis, University of California, Los Angeles

SUMMARY QUALIFICATIONS

Scott has over 29 years of experience in California as a paleontologist and sedimentary geologist. She has worked extensively in the field surveying, monitoring, and salvaging fossils on hundreds of projects. In addition, she has special skills in jacketing large fossils, fossil preparation (cleaning and stabilization) and in the preparation of stratigraphic sections and other documentation for fossil localities. Ms. Scott frequently authors paleontological assessments, paleontological mitigation plans, and monitoring compliance reports to all agency requirements. She authors and conducts crew sensitivity training, serves as company safety officer, and has authored both the company safety and paleontology manuals. She is a Member of the Society of Vertebrate Paleontology and the Geological Society of America.

SELECTED PROJECTS

Valley Boulevard Widening Project, City of Menifee, Riverside County, CA. The City of Menifee proposed to widen the existing Valley Boulevard roadway and extend the roadway through two existing gaps, providing local residents with one continuous route. The project included raised medians, turn lanes, and seven new traffic signals at major intersections. Additionally, sidewalks and bike lanes would be constructed on both sides of the roadway. Soundwalls would be incorporated along the roadway where applicable. Cogstone conducted a paleontological resources assessment which consisted of records searches, a pedestrian survey, and preparation of a Paleontological Resources Assessment Report. The project area was determined to have a moderate potential for fossils, and Worker Environmental Awareness Program (WEAP) training was recommended for all construction personnel. The City of Menifee was the lead agency under the California Environmental Quality Act (CEQA). Sub to Dokken Engineering. Principal Investigator for Paleontology. 2022

The Terraces Project, City of Murrieta, Riverside County, CA. The purpose of this study was to determine the potential effect on paleontological resources by the Terraces Project, which involved construction of 900 apartment units in 12 four-story buildings on a 37.8-acre site. Parking spaces, a leasing center, clubhouse, swimming pool, various walking paths and green space areas, and a dog park or other outdoor open space area would be provided throughout the project site. Planned vertical impacts would be in excess of 10 feet during grading. Cogstone performed records searches, a pedestrian survey, and produced a Paleontological Resources Assessment Report. All work was done in compliance with the mitigation measures for the project. The City of Murrieta was the lead municipal agency under CEQA. Sub to Birdseye Planning Group, LLC. Principal Investigator for Paleontology. 2021-2022

Purple Line Extension (Westside Subway) Sections 1 and 2 Construction Management, Los Angeles County Metropolitan Transportation Authority, Los Angeles, Los Angeles County, CA. The project involves construction of seven stations from the existing Purple Line at Wilshire/Western Avenue along Wilshire Boulevard to the Veterans Administration Hospital in Westwood for 8.6 miles. Cogstone manages all paleontological services for Sections 1 and 2 of the subway project including budgets, WEAP training, monitoring, fossil recovery, fossil preparation, identification, cataloguing curation with the Natural History Museum of Los Angeles County, and reporting. Sub to JV West (Stantec/Jacobs JV; Section 1), AECOM (Section 2). Principal Investigator for Paleontology. 2014-*ongoing*

Cold Canyon Landfill Expansion Module 12, Arroyo Grande, San Luis Obispo County, CA. Cogstone conducted archaeological and paleontological resources monitoring for the expansion of an existing landfill. In addition, Cogstone provided WEAP training for all construction personnel. Upon completion of monitoring, Cogstone prepared a Cultural and Paleontological Resources Monitoring Compliance Report. Sub to Waste Connections, Inc. Principal Investigator for Paleontology. 2022

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

HOLLY HICKMAN
Archaeologist

EDUCATION

2009 B.A., Archaeology/History, Simon Fraser University, Canada

SUMMARY QUALIFICATIONS

Ms. Hickman is a qualified archaeologist and cross-trained paleontologist with over 11 years of experience in pedestrian survey, monitoring, excavation and burial recovery, as well as the identification of human and faunal skeletal remains. She is proficient in the preparation of cultural resources assessment reports for a variety of federal, state, and local agencies throughout California and the eastern United States. Ms. Hickman is responsible for the organization of field data, supervision, preparing California Department of Parks and Recreation 523 (DPR 523) forms, as well as identifying and cataloging prehistoric and historic artifacts. She also has experience with preparing artifact collections for curation at a variety of different repositories throughout California and the eastern United States.

SELECTED PROJECTS

Pacific Gas and Electric (PG&E) Master Services Agreement, Statewide, CA. Cogstone was sub-contracted to provide on-call cultural resources monitoring services for various PG&E projects throughout California. Cogstone has conducted archaeological monitoring for over 30 task orders. In addition, Cogstone assisted in burial recovery and repatriation of human remains in consultation with the Most Likely Descendant (MLD), PG&E, and Cardno on one project. Sub to Cardno (now Stantec). Project Manager/Supervisor. 2019-2022

Southern California Edison (SCE) Environmental Clearance On-Call Program, Statewide, CA. Cogstone was subcontracted to provide on-call cultural resources monitoring services for various SCE projects throughout California. Projects have included new pole and tower placements, existing pole and tower replacements, vegetation clearance, underground repairs, and general maintenance. Cogstone has conducted archaeological monitoring and surveys, GIS mapping, and prepared technical reports for over 130 task orders. Sub to Cardno (now Stantec). Project Manager/Supervisor. 2018-2021

New Cuyama Dump Sites 1, 2, and 3, Bureau of Land Management (BLM) Bakersfield Office, Santa Barbara County, CA. The Project involved identifying archaeological and historical resources present within three illegal dump sites on BLM land. This study included an assessment of the historic potential of dump refuse and National Register of Historic Places (NRHP) eligibility recommendations for debris demonstrating affirmative evidence for an age of greater than 45 years. A Class III Cultural Resources survey was conducted and included an intensive-level pedestrian survey of the Area of Potential Effect (APE) with no larger than ten-meter-wide transects when used. Smaller transects were used in narrower areas of the APE and during investigations of newly identified archaeological sites and isolates. A total of three historic trash scatters were identified during the survey and a total of four historic isolates were identified. These resources were recorded on Department of Parks and Recreation 523 (DPR 523) forms. No archaeological sites or isolates were identified. No artifacts were collected. Cogstone was able to meet the scheduled deadlines for the Project and completed the work within the budget. The deliverables were accepted by the BLM without revisions. Project Manager and Archaeologist. 2020-2021

Morro Bay Water Facility, City of Morro Bay, San Luis Obispo County, CA. The City of Morro Bay has proposed to construct a new water reclamation facility. Federal funding for the project required compliance with Section 106 of the NHPA along with the California Environmental Quality Act (CEQA). The United States Environmental Protection Agency (EPA) acted as federal lead and the City acted as state lead agency, with permitting by the California Coastal Commission (CCC), California Department of Transportation (Caltrans), and the State Water Resources Control Board. Cogstone conducted Workers Environmental Awareness Program (WEAP) trainings for all construction personnel, cultural and paleontological resources monitoring, and prepared a Cultural Resources Monitoring Compliance Report upon completion of construction. Sub to Filanc Black & Veatch Joint Venture. Supervisor. 2020-2021

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

LOGAN FREEBERG
GIS Supervisor

EDUCATION

2018 Geographic Information Systems (GIS) Certificate, California State University, Fullerton
2003 B.A., Anthropology, University of California, Santa Barbara

SUMMARY OF QUALIFICATIONS

Mr. Freeberg has over 20 years of experience in cultural resource management and has extensive experience in field surveying, data recovery, monitoring, and excavation of archaeological and paleontological resources associated with land development projects in the private and public sectors. He has conducted all phases of archaeological work, including fieldwork, laboratory analysis, research, and reporting. Mr. Freeberg also has a strong grounding in conventional field and laboratory methods and is skilled in the use of ArcGIS.

SELECTED PROJECTS

Bell Gardens Water Reservoir Project, City of Bell Gardens, Los Angeles County, CA. Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources during improvements which included a new two-million-gallon reservoir, booster pump station, well to be drilled, and other components. Services included record searches, Sacred Lands File search from the Native American Heritage Commission, and an intensive pedestrian survey of the 1.7-acre project area. Sub to Infrastructure Engineers. GIS Supervisor. 2019-2020

Santiago Canyon Estates Fuel Mod Project, unincorporated Orange County, CA. Cogstone conducted a cultural resources assessment to determine the potential for surface cultural resources for compliance with Orange County Fire Authority's Precise Fuel Modification Plan for zones of the Santiago Canyon Estates Community. Services included a cultural resources records search, Sacred Lands File search from the Native American Heritage Commission, and a reconnaissance survey. Sub to Fire Safe Council East Orange County Canyons. GIS Supervisor. 2020

State Route 108/Highway 49 and Mackey Ranch Road Intersection Improvements Project, Caltrans District 10, Tuolumne County, CA. The Chicken Ranch Rancheria of Me-Wuk Indians of California (Tribe), in partnership with the California Department of Transportation (Caltrans), proposed to replace an intersection and convert to a roundabout designed to accommodate forecasted future traffic volumes and provide an alternative access route to the Chicken Ranch Rancheria. Cogstone completed an intensive-level pedestrian survey, CHRIS records search, sacred lands file search from the NAHC, Native American consultation, consulted with local history societies and preservation groups, and produced a Historical Resources Compliance Report (HRCR) and Archaeological Survey Report (ASR). Sub to Foothill Associates. GIS Supervisor. 2019-2020

Dogwood Road Project, City of El Centro, Imperial County, CA. Cogstone conducted a cultural resources assessment to determine the potential effects to cultural resources resulting from the construction of United States Department of Agriculture (USDA) Part 70-B RD Funding assisted housing on a 2.2-acre parcel. Cogstone conducted a record search, pedestrian survey, and determined that no further cultural resources work was necessary. The assessment provided environmental documentation as required by Section 106 of the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA). The City of El Centro acted as the lead agency. Sub to Partner Science & Engineering, Inc. GIS Supervisor. 2019-2020

Laguna Creek Trail and Bruceville Road Project, Caltrans District 3, City of Elk Grove, Sacramento County, CA. The City of Elk Grove, in cooperation with Caltrans, proposed multiple trail extensions and gap closures in effort to provide connecting links that would ultimately provide trail users with access to a vast system of trails, with connections to parks, schools, community centers, commercial retail and office areas, and transit facilities. Cogstone conducted pedestrian surveys, records search, and prepared an Archaeological Survey Report (ASR) and a Historic Property Survey Report (HPSR). Sub to Helix Environmental. GIS Supervisor. 2019-2020

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

SHANNON LOPEZ
Architectural Historian

EDUCATION

2022 Certificate in Historic Preservation, The Boston Architectural College, Boston
2018 M.A., History (with an emphasis in architecture), California State University, Fullerton
2012 B.A., History, Minor in Asian-Pacific Studies, California State University, Dominguez Hills

SUMMARY QUALIFICATIONS

Ms. Lopez is a qualified architectural historian with over five years of experience who meets or exceeds the Secretary of the Interior's Standards and Guidelines for Architectural History. Her experience includes architectural history research and surveys with photo documentation and recording of built environment resources for local and federal projects. She has extensive knowledge with Native American consultation, consultation with local and state historical societies, and in the analysis of primary and secondary sources. Ms. Lopez is acknowledged as an approved Architectural Historian by Caltrans and is listed as a Principal Investigator on Cogstone's Bureau of Land Management (BLM) Cultural Resources Use Permit. She is accepted as a Principal Investigator for Architectural History and History by the State Historic Preservation Office (SHPO). Additionally, she is an approved Reader at the Huntington Library by the Los Angeles Office of Historic Resources.

RELEVANT EXPERIENCE

San Gabriel River Commuter Bikeway and Big Dalton Wash Commuter Bikeway, City of Baldwin Park, Los Angeles County, CA. Cogstone conducted a cultural and historic built environment resources assessment to determine the potential impacts to cultural and historical resources for the proposed construction of approximately five miles of new bikeway/pedestrian pathway. Services included pedestrian surveys, records searches, a Sacred Lands File search from the Native American Heritage Commission (NAHC), preparation of California Department of Parks and Recreation 523 (DPR 523) forms, National Register of Historic Places (NRHP) eligibility assessments, and reporting. The project required a Section 408 permit from the United States Army Corps of Engineers (USACE) due to the proximity of the federally managed San Gabriel River and tributaries. All work was completed in compliance with Section 106 of the National Historic Preservation Act (NHPA). The City of Baldwin Park acted as lead agency under the California Environmental Quality Act (CEQA). Sub to Infrastructure Engineering Corporation. Architectural Historian. 2020-2021

Irwindale Concrete Tilt-Up Warehouse Building, City of Irwindale, Los Angeles County, CA. Cogstone conducted an assessment to determine the potential impacts to cultural, historic built environment, and paleontological resources in compliance with the California Environmental Quality Act (CEQA) for the construction of an approximately 129,830 square foot stand-alone concrete tilt-up warehouse building with an office mezzanine. The project required the demolition of an existing building constructed in 1956. Cogstone's services included cultural and paleontological resources records searches, a Sacred Lands File search from the Native American Heritage Commission (NAHC), Assembly Bill 52 (AB 52) consultation support, and an intensive pedestrian survey. A Pepsi-Cola bottling plant constructed in the late 1950s was identified during the survey and was fully documented on California Department of Parks and Recreation 523 (DPR 523) forms and was evaluated for listing in the California Register of Historical Resources (CRHRCogstone prepared a Cultural and Paleontological Resources Assessment Report. The City of Irwindale was the lead agency for the project under CEQA. Sub to PlaceWorks. Architectural Historian. 2021

City of San Juan Capistrano, In-N-Out 31791 Del Obispo Street, San Juan Capistrano, CA. Cogstone conducted a Historic Resources Project Review to determine potential impacts to historical resources resulting from the proposed construction of a 3,897 square foot In-N-Out Restaurant with a drive-through and related site improvements on two adjoining lots totaling 1.77 acres. Cogstone's services included a cultural resources records search, built environment survey, updates to existing DPR 523 forms, NRHP eligibility assessments, and preparation of a Historic Resource Project Review Report. The assessment was completed in compliance with the requirements of CEQA with the City of San Juan Capistrano as the lead agency under CEQA. Architectural Historian. 2021

APPENDIX B. PALEONTOLOGICAL RECORDS SEARCH RESULTS

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

2 October 2018

Cogstone Resource Management, Inc.
1518 West Taft Avenue
Orange, CA 92865-4157

Attn: Megan Wilson, Archaeologist & GIS Technician

re: Vertebrate Paleontology Records Check for paleontological resources for the proposed City of Irvine General Plan Update, Phase 2, Project, Cogstone Project # 4339, in the City of Irvine, Orange County, project area

Dear Megan:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed City of Irvine General Plan Update, Phase 2, Project, Cogstone Project # 4339, in the City of Irvine, Orange County, project area as outlined on the portions of the Orange, Black Star Canyon, Tustin, El Toro, Laguna Beach, and San Juan Capistrano USGS topographic quadrangle maps that you sent to me via e-mail on 18 September 2018. We have at least 23 vertebrate fossil localities that lie directly within the boundaries of the proposed project area, and other localities nearby or at some distance from the same sedimentary deposits that occur in the proposed project area.

In the elevated terrain of the San Joaquin Hills in the southwestern portion of the proposed project area there are some exposures of intrusive igneous rocks that will not contain any recognizable fossils. From oldest to youngest the elevated terrain of the San Joaquin Hills also has exposures of the marine Paleocene Silverado Formation, the early Eocene Santiago Formation, the late Eocene through earliest Miocene Sespe Formation, the marine Eocene through earliest Miocene Vaqueros Formation and the marine middle Miocene Paulerino, Los Trancos, and Bommer Members of the Topanga Formation.

In the elevated terrain of the northern portion of the proposed project area, from the Loma Ridge area southeastward, there are exposures of the marine late Cretaceous Williams Formation, the marine Paleocene Silverado Formation, the early Eocene Santiago Formation, the late Eocene through earliest Miocene Sespe and Vaqueros Formations undifferentiated, the marine middle to late Miocene Monterey Formation, the marine late Miocene Oso, La Vida, and Soquel Members of the Capistrano Formation, and the marine Pliocene Niguel Formation.

In the slightly less elevated terrain in the eastern and southern portions of the proposed project area there are surface deposits of older Quaternary Alluvium, mostly geologically mapped as terrestrial Quaternary terrace deposits but mapped as a mixture of terrestrial and marine Quaternary terrace deposits in the southwestern portion of the proposed project area closer to Upper Newport Back Bay. Most of the proposed project area though, the less elevated terrain in the southeastern portion of the Orange County Coastal Plain, has surface deposits of younger Quaternary Alluvium, derived as alluvial fan deposits from the surrounding hills and mountains.

We do not have any vertebrate fossil localities identified as coming from the Williams Formation. Our vertebrate fossil locality LACM (CIT) 592, though, was originally listed as coming from either the Ladd Formation or Williams Formation in the Santiago Canyon area. Locality LACM (CIT) 592 produced a rare specimen of a fossil dinosaur, Hadrosauridae, from California, published and later figured in the scientific literature by W. J. Morris (1973. Journal of Paleontology, 47(3):551-561; 1982. SEPM Field Trip Volume & Guidebook, 89-90). Our vertebrate fossil locality LACM 1895, in the Santa Ana Mountains east of Santiago Canyon, produced a fossil specimen of mackerel shark, *Squalicorax falcatus*. This specimen was figured in the scientific literature by S.P. Applegate (1964. First Record of the Extinct Shark, *Squalicorax falcatus*, from California. Bulletin of the Southern California Academy of Sciences, 63(1):42-43) and published again by B.J. Welton et.al. (1981. A Preliminary Note on the Late Cretaceous Sharks of the Chatsworth Formation at Dayton Canyon, Simi Hills, Los Angeles County, California. September Guidebook). Applegate described the specimen as coming from the Pleasants Sandstone Member of the Williams Formation, but more likely it came from the the Holz Shale Member of the Ladd Formation.

Our only vertebrate fossil locality indicated as being from the Silverado Formation, LACM 4634, is an older locality only identified as coming from the Irvine Ranch in the Santa Ana Mountains. Locality LACM 4634 produced a specimen of an unidentified fossil tortoise, Testudinidae.

All of our fossil vertebrate localities from the Santiago Formation, LACM 3881, 3883-3884, 3979, 4022, 5346-5347, 6926 and 68102, occur in the northwestern part of San Diego County, clustered around Carlsbad. These localities produced a suite of vertebrate fossils including turtles, crocodiles, birds, rodents, insectivores, brontothere, and amynodont rhinoceroses. David J. Golz (1976. Eocene Artiodactyla of Southern California. Los Angeles County Museum Science Bulletin, 26:1-85) published on the LACM specimens of the protoceratid artiodactyl *Leptoreodon leptolophus* and the camels *Protylopus petersoni* and *Protylopus stocki* from our Santiago Formation locality LACM 68102.

We have a number of Vaqueros Formation localities that occur within the proposed project area: LACM 7505, 7548-7553, 7675-7678, and 7712, all situated in the southeastern portion of the proposed project area south of the San Diego Freeway (I-405) mostly west of the Laguna Freeway (Highway 133) between about the Laguna Reservoir and the Sand Canyon Reservoir. These localities has so far produced a marine fauna containing fossil specimens of eagle ray, *Myliobatis*, basking shark, *Cetorhinus*, requiem shark, Carcharhinidae, quadrupedal marine mammal, Desmostylia, long snouted dolphin, *Argyrocetus*, shark-toothed dolphin, Squalodontidae, early toothless whale, Eomysticetidae, and primitive baleen whale, Cetotheriidae, We have two more vertebrate fossil localities, LACM 5448, and 6666, that occur within the proposed project area and are designated as being from the Sespe / Vaqueros Formations undifferentiated. Both localities have produced marine fossils though and are likely from the Vaqueros facies of the Sespe / Vaqueros Formations undifferentiated. Locality LACM 5448, jut inside the eastern border of the proposed project area east of the current Orange County Great Park in the hills on the southern side of the Borrego Canyon Wash, produced fossil specimens of undetermined bird, Aves, and whale, Cetacea. Locality LACM 6666, in the eastern portion of the proposed project area near the Lambert Reservoir and Tomato Springs, produced a fossil specimen of the quadrupedal marine mammal *Desmostylus*.

We have one locality, LACM 8016, from the Los Trancos Member of the Topanga Formation, that occurs within the boundaries of the proposed project area on the southern side of the University of California at Irvine campus near Bonita Canyon Drive. Locality LACM 8016 produced a marine fauna contain fossil specimens of requiem shark, *Carcharhinus*, tiger shark, *Galeocerdo*, snaggletooth shark, *Hemipristis*, hammerhead shark, *Sphyrna*, raggedtooth shark, *Odontaspis*, bramble shark, *Echinorhinus*, herring, *Xyne grex*, and mora, Moridae.

We have no Monterey Formation localities that occur within the proposed project area boundaries, but we do have a number of Monterey Formation localities that occur in Lake Forest just outside the boundaries of the southeastern portion of the proposed project area: 3198, 3486, 3209-3210, 3412-3413, and 4103-4114. These localities produced a suite of fossil marine vertebrates including hammerhead shark, *Sphyrna*, giant white shark, *Carcharocles megalodon*, bonito sharks, *Isurus benedeni* and *Isurus oxyrinchus*, bramble shark, *Paraechinorhinus barnesi*, eel, Anguilliformes, jack, Carangidae, bonito, *Sarda*, barracuda, *Sphyraena*, crocodile, *Crocodylus*, bird, Aves, sea lion, Otariidae, dugong, *Dioplotherium allisoni*, baleen whale, Mysticeti, and dolphin, Kentriodontidae. A specimen of the dugongid sirenian *Dioplotherium allisoni* from locality LACM 3210 was figured in the scientific literature by D. P. Domning in 1978 (Sirenian Evolution in the North Pacific Ocean. University of California Publications in Geological Sciences, 118:1-176). Specimens of the fossil crocodile *Crocodylus* from localities LACM 3209 and 3210 were published in the scientific literature by C. A. Brochu in 1999 (Phylogenetics, Taxonomy, and Historical Biogeography of Alligatoroidea. Journal of Vertebrate Paleontology, 19(2):9-100). F. H. Pfeil designated the holotype (name bearing specimen for a species new to science) of the echinorhinid shark *Paraechinorhinus barnesi* from locality LACM 3198 (1983. Zahnmorphologische Untersuchungen an rezenten und fossilen Haien der Ordnungen Chlamydoselachiformes und Echinorhiniformes. Palaeoichthyologica. 1:1-315).

Near the southwestern portion of the proposed project area, on the eastern side of Newport Back Bay in the bluffs along Backbay Drive west of Jamboree Road and south of San Joaquin Hills Road, we have two Monterey Formation localities, LACM 1160 and 7139, that produced undetermined fossils of bony fish, Osteichthyes and baleen whale, Mysticeti.

We do not have any Puente Formation localities that occur within the proposed project area boundaries. Our closest locality, LACM 6287, from the La Vida Member of the Puente Formation, occurs to the northeast of the northeastern portion of the proposed project area along East Santiago Canyon Road in Limestone Canyon near Blue Diamond Haul Road and produced fossil specimens of tonguefish, *Symphurus*.

We have two localities from the Oso Member of the Capistrano Formation that occur within the boundaries of the northeastern portion of the proposed project area: LACM 3866 and 4171. Locality LACM 4171, at Tomato Springs near the mouth of Round Canyon, produced a fossil specimen of undetermined baleen whale, Mysticeti. Locality LACM 3866, on the southwestern side of the Lambert Reservoir just to the southwest, produced fossil specimens of walrus, *Pontolis magnus*, and dugongid sea cow, *Dioplotherium allisoni*. The skeleton of Pontolis Magnus from locality LACM 3866 was published by the scientific literature by J. Vélez-Juarbe (2017. *Eotaria citrica*, sp. nov., a new stem otariid from the "Topanga" formation of Southern California. PeerJ, 5(e3022):1-25). In Round Canyon just to the northeast, but outside the proposed project area boundaries, our Capistrano Formation LACM 7539 produced a fossil specimen of undetermined fur seal, Otariidae.

We have two Niguel Formation localities that occur within the southwestern boundaries of the proposed project area: LACM 3977 and 3986, along what is now MacArthur Boulevard near University Drive. Locality LACM 3977 produced fossil specimens undetermined bony fish, Osteichthyes, in addition to brachiopods and mollusks. Locality LACM 3986 produced fossil specimens of chimaera, Chimaeroidei, spiny dogfish, *Squalus acanthias*, Pacific hake, *Merluccius productus*, mora, Moridae, queenfish, *Seriphus*, sculpin, Cottidae, and rockfish, *Sebastes*.

Also within the southwestern boundaries of the proposed project area we have the older Quaternary localities LACM 1068, just east of MacArthur Boulevard and north of what is now Bison Avenue, LACM 3978, adjacent to the southeastern side of the intersection of University Drive and MacArthur Boulevard, and LACM 1069, on the south side of University Drive east of MacArthur Boulevard. Locality LACM 1069 produced fossil specimens of undetermined mammals, Mammalia. Locality LACM 3978 produced fossil specimens of undetermined even-toed ungulate, Artiodacyla and turkey, *Meleagris*. The turkey specimen from locality LACM 3978 was published in the scientific literature by D.W. Steadman (1980. A Review of the Osteology and Paleontology of Turkeys (Aves: Meleagridinae). LACM Contributions in Science, 330:131-207). Locality LACM 1068 produced fossil specimens of ground sloth, *Paramylodon*, rabbit, *Sylvilagus*, tapir, *Tapirus californicus*, horse, *Equus*, camel, *Camelops*, deer, *Odocoileus*, and bison, *Bison*. The tapir from locality LACM 1068 was published in the

scientific literature by G.T. Jefferson (1989. Late Cenozoic Tapirs (Mammalia: Perissodactyla) of Western North America. LACM Contributions in Science, 406:1-21). In the southeastern portion of the proposed project area, on the western side of the Laguna Freeway (Highway 133) at the southern end of the interchange with the San Diego Freeway (I-405), we have another older Quaternary locality, LACM 7713, that produced a fossil specimen of ground sloth, Mylodontidae. In the central eastern portion of the proposed project area, in the Orange County Great Park near the end of 5th Street, our older Quaternary locality LACM 7867 produced fossil specimens of pocket gopher, *Thomomys*.

Excavations in the intrusive igneous rocks exposed in the San Joaquin Hills in the southern portion of the proposed project area will not contain recognizable fossils. Shallow excavations in the uppermost few feet of the younger Quaternary alluvial deposits exposed in the lower lying terrain in most of the proposed project area probably will not uncover significant fossil vertebrate remains. Deeper excavations in those portions of proposed project area that extend down into older sedimentary deposits, as well as any excavations in the Williams Formation, the Silverado Formation, the Santiago Formation, the Sespe & Vaqueros Formations, the Topanga Formation, the Monterey Formation, the Puente Formation, the Capistrano Formation, the Niguel Formation, or the older Quaternary deposits, exposed in the more elevated terrain in the proposed project area, however, may well encounter significant vertebrate fossils. Any substantial excavations in the sedimentary deposits in the proposed project area, therefore, should be closely monitored to quickly and professionally collect any specimens without impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

APPENDIX C. FOSSIL LIST

Group	Taxon	Common Name	Formation
Bivalve	*Aphrodina* sp.	clam	Williams, Pleasants M
Bivalve	*Astarte* sp.	clam	Williams
Bivalve	Bivalvia	bivalve	Williams
Bivalve	Bivalvia	clam	Williams
Bivalve	cf. *Trigonarca* sp.	clam	Williams
Bivalve	*Crassatella*	clam	Williams
Bivalve	*Cucullaea* sp.	clam, arc	Williams
Bivalve	*Eriphyla* sp.	clam	Williams
Bivalve	*Ostrea* sp.	oyster	Williams
Bivalve	*Pterotrigonia*	clam, ridge	Williams
Cephalopod	?Ammonidea	ammonite	Williams
Cephalopod	cf. *Subprionocyclus* sp,	ammonite	Williams
Crab	Decapoda	crab	Williams
Gastropod	*Acteonella* sp.	snail, coiled	Williams
Gastropod	*Turritella*	snail, turret	Williams
Gastropod	*Volutoderma*	sea snail	Williams
Plant	Plantae	plant	Williams
Plant	Plantae	plant	Williams
Tree, conifer	Araucariaceae	pine	Williams
Tree, conifer	Cupressaceae	cypress	Williams
Bivalve	*Calva*	clam, venerid	Williams
Bivalve	*Calva*	clam, venerid	Williams
Bivalve	*Clisocolus*	clam	Williams
Bivalve	*Crassatella*	clam	Williams
Bivalve	*Crassatella elongata*	clam	Williams
Bivalve	*Crassatella saulae*	clam	Williams
Bivalve	*Cucullaea (Idonearca)*	clam, arc	Williams
Bivalve	*Cucullaea youngi*	clam, arc	Williams
Bivalve	*Glycymeris*	clam, bittersweet	Williams
Bivalve	*Glycymeris anae*	clam, bittersweet	Williams
Bivalve	Lucinidae	clam, lucine	Williams
Bivalve	Ostreidae	oyster	Williams
Bivalve	*Paraesa*	clam	Williams
Bivalve	*Paraesa*	clam	Williams
Bivalve	*Pecten*	scallop	Williams
Bivalve	Pectinidae	scallop	Williams
Bivalve	*Perissitys pacificum*	clam, nut	Williams
Bivalve	Pholadidae	angel wings	Williams
Bivalve	*Pinna*	mussel, pen	Williams
Bivalve	*Pterotrigonia evansana*	clam, ridge	Williams
Bivalve	*Pterotrigonia evansana*	clam, ridge	Williams
Bivalve	*Pycnodonte*	oyster	Williams
Bivalve	Tellinidae	clam, tellinid	Williams
Bivalve	Tellinidae	clam, tellinid	Williams
Cephalopod	*Metaplacenticeras*	ammonite	Williams
Cephalopod	*Metaplacenticeras placificum*	ammonite	Williams
Cephalopod	*Metaplacenticeras placificum*	ammonite	Williams

Group	Taxon	Common Name	Formation
Echinoid	Crinoidea	crinoid	Williams
Echnoid	*Plesiaster*	sea urchin	Williams
Fish, Bony	Actinopterygii	fish, ray finned	Williams
Gastropod	*Anchura phaba*	snail, pelican foot	Williams
Gastropod	Epitoniidae	sea snail	Williams
Gastropod	*Paleofusimitra*	snail	Williams
Gastropod	*Turritella*	snail, turret	Williams
Gastropod	*Turritella chicoenses pescaderoensis*	snail, turret	Williams
Gastropod	*Turritella chicoensis pescarderoensis*	snail, turret	Williams
Protist	*Desmophylites diphylloides*	radiolaria	Williams
Scaphopod	*Indogrammatodon*	tusk shell	Williams
Bivalve	*?Crassatella*	clam	Williams, undif.
Bivalve	*?Glycymeris*	clam, bittersweet	Williams, undif.
Bivalve	*Acila demessa*	clam	Williams, undif.
Bivalve	*Acutostrea*	oyster	Williams, undif.
Bivalve	*Anomia jalama*	clam	Williams, undif.
Bivalve	*Anomia jalama*	clam	Williams, undif.
Bivalve	Arcidae	clam, arc	Williams, undif.
Bivalve	Bivalvia	clams	Williams, undif.
Bivalve	Cacullaea	clam	Williams, undif.
Bivalve	*Calva*	clam, venerid	Williams, undif.
Bivalve	*Calva*	clam, venerid	Williams, undif.
Bivalve	*Calva bowersiana*	clam, venerid	Williams, undif.
Bivalve	*Calva campanae*	clam, venerid	Williams, undif.
Bivalve	*Clisocolus*	clam	Williams, undif.
Bivalve	*Clisocolus*	clam	Williams, undif.
Bivalve	*Clissocolus*	clam	Williams, undif.
Bivalve	*Clissocolus dubius*	clam	Williams, undif.
Bivalve	*Clissocolus dubius*	clam	Williams, undif.
Bivalve	*Crassatella*	clam	Williams, undif.
Bivalve	*Crassatella*	clam	Williams, undif.
Bivalve	*Crassatella*	clam	Williams, undif.
Bivalve	*Crassatella*	clam	Williams, undif.
Bivalve	*Crassatella*	clam	Williams, undif.
Bivalve	*Crassatella*	clam	Williams, undif.
Bivalve	*Crassatella*	clam	Williams, undif.
Bivalve	*Crassatella*	clam	Williams, undif.
Bivalve	*Crassatella elongata*	clam	Williams, undif.
Bivalve	*Crassatella elongata*	clam	Williams, undif.
Bivalve	Crassatellidae	clam	Williams, undif.
Bivalve	*Cucullae*	clam, arc	Williams, undif.
Bivalve	*Cucullaea*	clam, arc	Williams, undif.
Bivalve	*Cucullaea*	clam, arc	Williams, undif.
Bivalve	*Cucullaea*	clam, arc	Williams, undif.
Bivalve	*Cucullaea*	clam, arc	Williams, undif.
Bivalve	*Cucullaea*	clam, arc	Williams, undif.
Bivalve	*Cucullaea (Idonearca)*	clam, arc	Williams, undif.

Group	Taxon	Common Name	Formation
Bivalve	*Cucullaea youngi*	clam, arc	Williams, undif.
Bivalve	*Glycymeris*	clam, bittersweet	Williams, undif.
Bivalve	*Glycymeris*	clam, bittersweet	Williams, undif.
Bivalve	*Glycymeris*	clam, bittersweet	Williams, undif.
Bivalve	*Glycymeris*	clam, bittersweet	Williams, undif.
Bivalve	*Glycymeris*	clam, bittersweet	Williams, undif.
Bivalve	*Glycymeris anae*	clam, bittersweet	Williams, undif.
Bivalve	*Indogrammatodon*	tusk shell	Williams, undif.
Bivalve	*Indogrammatodon*	tusk shell	Williams, undif.
Bivalve	*Indogrammatodon*	tusk shell	Williams, undif.
Bivalve	*Inoceramus*	clam	Williams, undif.
Bivalve	*Inoceramus*	clam	Williams, undif.
Bivalve	*Inoceramus*	clam	Williams, undif.
Bivalve	*Inoceramus*	clam	Williams, undif.
Bivalve	*Inoceramus*	clam	Williams, undif.
Bivalve	Lucinidae	clam, lucine	Williams, undif.
Bivalve	Lucinidae	clam, lucine	Williams, undif.
Bivalve	Nuculidae	clam, nut	Williams, undif.
Bivalve	Nuculidae	clam, nut	Williams, undif.
Bivalve	*Opis*	clam	Williams, undif.
Bivalve	*Opis triangulata*	clam	Williams, undif.
Bivalve	Ostreidae	oyster	Williams, undif.
Bivalve	Ostreidae	oyster	Williams, undif.
Bivalve	Ostreidae	oyster	Williams, undif.
Bivalve	Ostreidae	oyster	Williams, undif.
Bivalve	*Palaeomoera dyskritos*	clam, tellinid	Williams, undif.
Bivalve	*Panope*	clam, geoduck	Williams, undif.
Bivalve	*Panope californicum*	clam, geoduck	Williams, undif.
Bivalve	*Panopea*	clam, geoduck	Williams, undif.
Bivalve	*Panopea*	clam, geoduck	Williams, undif.
Bivalve	*Panopea*	clam, geoduck	Williams, undif.
Bivalve	*Paraesa*	clam	Williams, undif.
Bivalve	*Paraesa lens*	clam	Williams, undif.
Bivalve	Pectinidae	scallop	Williams, undif.
Bivalve	*Perissitys*	clam, nut	Williams, undif.
Bivalve	*Perissitys pacificum*	clam, nut	Williams, undif.
Bivalve	*Perissitys pacificum*	clam, nut	Williams, undif.
Bivalve	Pholadidae	angel wings	Williams, undif.
Bivalve	*Pinna*	mussel, pen	Williams, undif.
Bivalve	*Pinna*	mussel, pen	Williams, undif.
Bivalve	*Pinna*	mussel, pen	Williams, undif.
Bivalve	*Pinna*	mussel, pen	Williams, undif.
Bivalve	*Protocardia*	cockle	Williams, undif.
Bivalve	*Pterioida*	mussel	Williams, undif.
Bivalve	*Pterotrigonia*	clam, ridge	Williams, undif.
Bivalve	*Pterotrigonia*	clam, ridge	Williams, undif.
Bivalve	*Pterotrigonia*	clam, ridge	Williams, undif.

Group	Taxon	Common Name	Formation
Bivalve	*Pterotrigonia*	clam, ridge	Williams, undif.
Bivalve	*Pterotrigonia evansana*	clam, ridge	Williams, undif.
Bivalve	*Pterotrigonia evansana*	clam, ridge	Williams, undif.
Bivalve	*Pterotrigonia evansana*	clam, ridge	Williams, undif.
Bivalve	*Pterotrigonia evansana*	clam, ridge	Williams, undif.
Bivalve	*Pterotrigonia evansana*	clam, ridge	Williams, undif.
Bivalve	*Pterotrigonia evansana*	clam, ridge	Williams, undif.
Bivalve	*Pterotrigonia evansana*	clam, ridge	Williams, undif.
Bivalve	*Spondyllus*	oyster, spiny	Williams, undif.
Bivalve	*Spondyllus subrugosus*	oyster, spiny	Williams, undif.
Bivalve	*Teana inflata*	clam	Williams, undif.
Bivalve	Tellinidae	clam, tellinid	Williams, undif.
Bivalve	Veneridae	clam	Williams, undif.
Bivalve	Yaadia	clam	Williams, undif.
Cephalopod	?Ammonidea	ammonite	Williams, undif.
Cephalopod	Ammonidae	ammonite	Williams, undif.
Cephalopod	Ammonidae	ammonite	Williams, undif.
Cephalopod	Ammonidae	ammonite	Williams, undif.
Cephalopod	*Cymatoceras*	ammonite	Williams, undif.
Cephalopod	*Cymatoceras*	ammonite	Williams, undif.
Cephalopod	*Menuites*	ammonite	Williams, undif.
Cephalopod	*Menuites californies*	ammonite	Williams, undif.
Cephalopod	*Menuites californieus*	ammonite	Williams, undif.
Cephalopod	*Menuites californieus*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.

Group	Taxon	Common Name	Formation
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	*Metaplacenticeras pacificum*	ammonite	Williams, undif.
Cephalopod	Nautilidae	nautilus	Williams, undif.
Cephalopod	Pachydiscidae	ammonite	Williams, undif.
Cephalopod	Pseudophyllites/Neodesmorceras	ammonite	Williams, undif.
Crab	Brachyura	crab	Williams, undif.
Decapod	Caridea	shrimp	Williams, undif.
Dinosaur	?Ornithischia	dinosaur, duck-billed	Williams, undif.
Echinoid	Clypeasteroida	sand dollar	Williams, undif.
Echinoid	Echinoidea	sea urchin	Williams, undif.
Echnoid	*Nielsenicrinus*	crinoid	Williams, undif.
Echnoid	Spatangidae	urchin, heart	Williams, undif.
Echnoid	Spatangidae	urchin, heart	Williams, undif.
Fish, Bony	Actinopterygii	fish, ray finned	Williams, undif.
Fish, Bony	Actinopterygii	fish, ray finned	Williams, undif.
Fish, Bony	Actinopterygii	fish, ray finned	Williams, undif.
Fish, Cartilagenous	*Chiloscyllium*	shark, bamboo	Williams, undif.
Fish, Cartilagenous	Scyliorhinidae	shark, cat	Williams, undif.
Fish,cartilagenous	*Squalus*	shark, dogfish	Williams, undif.
Gastropod	*Anchura*	snail, pelican foot	Williams, undif.
Gastropod	*Anchura*	snail, pelican foot	Williams, undif.
Gastropod	*Biplica*	snail	Williams, undif.
Gastropod	*Biplica*	snail	Williams, undif.
Gastropod	*Gyrodes*	snail, moon	Williams, undif.
Gastropod	*Gyrodes pacificum*	snail, moon	Williams, undif.
Gastropod	*Gyrodes pacificus*	snail, moon	Williams, undif.
Gastropod	*Gyrodes rabsauli*	snail, moon	Williams, undif.
Gastropod	Naticidae	snail, moon	Williams, undif.
Gastropod	*Paleofusimitra*	snail	Williams, undif.
Gastropod	*Sycodes glabra*	snail, fig	Williams, undif.
Gastropod	*Tessarolax*	sea snail	Williams, undif.
Gastropod	*Turritella chicoensis*	snail, turret	Williams, undif.
Gastropod	*Turritella chicoensis*	snail, turret	Williams, undif.
Gastropod	*Turritella chicoensis pescarderoensis*	snail, turret	Williams, undif.
Gastropod	*Turritella chicoensis pescarderoensis*	snail, turret	Williams, undif.
Gastropod	*Turritella chicoensis pescarderoensis*	snail, turret	Williams, undif.
Gastropod	*Turritella chicoensis pescarderoensis*	snail, turret	Williams, undif.
Gastropod	*Turritella chicoensis pescarderoensis*	snail, turret	Williams, undif.
Gastropod	*Volutoderma*	sea snail	Williams, undif.
Gastropod	*Volutoderma*	sea snail	Williams, undif.
Gastropod	*Volutoderma magna*	sea snail	Williams, undif.
Gastropod	*Volutoderma magna*	sea snail	Williams, undif.

Group	Taxon	Common Name	Formation
Gastropod	*Zinsitys*	sea snail	Williams, undif.
Gastropod	*Zinsitys kingii*	sea snail	Williams, undif.
Gastropod	*Zinsitys kingii*	sea snail	Williams, undif.
Monocots	Liliopsida	lily	Williams, undif.
Plant	Plantae	plant	Williams, undif.
Protist	*Cymbella*	diatom	Williams, undif.
Protist	*Cymbella*	diatom	Williams, undif.
Protist	*Cymbella*	diatom	Williams, undif.
Protist	*Desmophylites diphylloides*	radiolaria	Williams, undif.
Protist	*Desmophylites diphylloides*	radiolaria	Williams, undif.
Protist	*Desmophylites diphylloides*	radiolaria	Williams, undif.
Protist	Foraminfera	foraminifera	Williams, undif.
Reptile	Reptilia	reptile	Williams, undif.
Reptile	Reptilia	reptile	Williams, undif.
Tree, conifer	Coniferales	petrified wood	Williams, undif.
Tree, conifer	Coniferales	petrified wood	Williams, undif.
Tree, conifer	Pinaceae	pine	Williams, undif.
Tree, hardwood	Dicotyledonae	dicot	Williams, undif.
Tree, hardwood	Magnoliophyta	leaf	Williams, undif.
Tree, hardwood	Magnoliophyta	leaf	Williams, undif.
Tree, hardwood	?*Salix* sp.	willow	Silverado
Tree, hardwood	Dicotyledonae	dicot leaf	Silverado
Plant	?Lamonia	plant	Santiago
Reptile	Crocodylidae	crocodile	Santiago
Tree, hardwood	?*Dryophyllum*	ancestor of oaks and beeches	Santiago
Tree, hardwood	Dicotyledonae	dicot	Santiago
Tree, hardwood	*Ficus*	fig	Santiago
Tree, hardwood	*Juglans* sp.	walnut	Santiago
Tree, hardwood	*Laurus*	laurel	Santiago
Tree, hardwood	*Magnolia* sp.	magnolia	Santiago
Tree, hardwood	*Salix*	willow	Santiago
Bivalve	Bivalvia	clam	Sespe-Vaqueros, undif
Bivalve	Ostreidae	oyster	Sespe-Vaqueros, undif
Bivalve	Pectinidae	scallop	Sespe-Vaqueros, undif
Crab	Brachyura	crab	Sespe-Vaqueros, undif
Decapod	Caridae	shrimp	Sespe-Vaqueros, undif
Echnoid	*Vaquerosella*	sand dollar	Sespe-Vaqueros, undif
Echnoid	*Vaquerosella*	sand dollar	Sespe-Vaqueros, undif
Fish, Bony	Acanthopterygii	fish, ray finned	Sespe-Vaqueros, undif
Fish, Bony	Acanthopterygii	fish, ray finned	Sespe-Vaqueros, undif
Fish, Bony	Actinopterygii	fish, ray finned	Sespe-Vaqueros, undif
Fish, Bony	Actinopterygii	fish, ray finned	Sespe-Vaqueros, undif
Fish, Bony	Actinopterygii	fish, ray finned	Sespe-Vaqueros, undif
Fish, Bony	Actinopterygii	fish, ray finned	Sespe-Vaqueros, undif
Fish, Bony	Albulidae	bonefish	Sespe-Vaqueros, undif
Fish, Bony	Albulidae	bonefish	Sespe-Vaqueros, undif
Fish, Bony	Albulidae	bonefish	Sespe-Vaqueros, undif

Group	Taxon	Common Name	Formation
Fish, Bony	*Chauliodus*	viperfish	Sespe-Vaqueros, undif
Fish, Bony	Cyprinidae	minnow family	Sespe-Vaqueros, undif
Fish, Bony	Cyprinidae	minnow family	Sespe-Vaqueros, undif
Fish, Bony	Diodontidae	porcupinefish	Sespe-Vaqueros, undif
Fish, Bony	Labridae	wrasse	Sespe-Vaqueros, undif
Fish, Bony	Labridae	wrasse	Sespe-Vaqueros, undif
Fish, Bony	Oplegnathidae	knifejaw	Sespe-Vaqueros, undif
Fish, Bony	Oplegnathidae	knifejaw	Sespe-Vaqueros, undif
Fish, Bony	*Rhinobatos*	guitarfish	Sespe-Vaqueros, undif
Fish, Bony	*Sarda*	bonito	Sespe-Vaqueros, undif
Fish, Bony	*Sphyraena*	barracuda	Sespe-Vaqueros, undif
Fish, Bony	*Sphyraena*	barracuda	Sespe-Vaqueros, undif
Fish, Bony	*Thyrsocles*	oilfish	Sespe-Vaqueros, undif
Fish, Cartilagenous	Batoidea	ray, bat	Sespe-Vaqueros, undif
Fish, Cartilagenous	Carcharhinidae	shark	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Carcharhinus*	shark	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Carcharhinus isodon*	shark	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Cetorhinus*	shark, basking	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Cetorhinus*	shark, basking	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Cetorhinus*	shark, basking	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Cetorhinus*	shark, basking	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Dasyatis*	stingray	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Dasyatis*	stingray	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Dasyatis*	stingray	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Dasyatis*	stingray	Sespe-Vaqueros, undif
Fish, Cartilagenous	Elasmobranchii	shark/ray	Sespe-Vaqueros, undif
Fish, Cartilagenous	Euselachii	shark	Sespe-Vaqueros, undif
Fish, Cartilagenous	Euselachii	shark	Sespe-Vaqueros, undif
Fish, Cartilagenous	Euselachii	shark	Sespe-Vaqueros, undif
Fish, Cartilagenous	Euselachii	shark	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Galeocerdo*	shark, tiger	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Galeocerdo*	shark, tiger	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Galeocerdo*	shark, tiger	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Galeocerdo*	shark, tiger	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Gymnura*	ray, butterfly	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Gymnura*	ray, butterfly	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Gymnura*	ray, butterfly	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Hemipristis*	shark ,weasel	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Heterodontus*	shark, horn	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Isogomphodon*	shark, daggernose	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Isogomphodon*	shark, daggernose	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Isogomphodon*	shark, daggernose	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Isogomphodon*	shark, daggernose	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Isurus*	shark, mackeral	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Mobula*	ray	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Mobula*	ray	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Mustelus*	shark, smooth-hound	Sespe-Vaqueros, undif

Group	Taxon	Common Name	Formation
Fish, Cartilagenous	*Mustelus*	shark, smooth-hound	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Mustelus*	shark, smooth-hound	Sespe-Vaqueros, undif
Fish, Cartilagenous	Myliobatidae	ray, eagle	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Myliobatis*	ray, eagle	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Myliobatis*	ray, eagle	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Myliobatis*	ray, eagle	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Myliobatus*	ray, eagle	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Pristiophorus*	sawshark	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Pristiophorus*	sawshark	Sespe-Vaqueros, undif
Fish, Cartilagenous	Rhizoprionodon	shark, requiem	Sespe-Vaqueros, undif
Fish, Cartilagenous	Rhizoprionodon	shark, requiem	Sespe-Vaqueros, undif
Fish, Cartilagenous	Rhizoprionodon	shark, requiem	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Rhynchobatus*	ray, wedge	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Rhynchobatus*	ray, wedge	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Rhynchobatus*	ray, wedge	Sespe-Vaqueros, undif
Fish, Cartilagenous	Rhynochobatus	ray, wedge	Sespe-Vaqueros, undif
Fish, Cartilagenous	Scyliorhinidae	shark, cat	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Triakis*	shark, hound	Sespe-Vaqueros, undif
Fish, Cartilagenous	*Triakis*	shark, hound	Sespe-Vaqueros, undif
Fish,cartilagenous	*Squatina*	shark, angel	Sespe-Vaqueros, undif
Fish,cartilagenous	*Squatina*	shark, angel	Sespe-Vaqueros, undif
Gastropod	Naticidae	snail, moon	Sespe-Vaqueros, undif
Gastropod	*Scutellina*	sea snail	Sespe-Vaqueros, undif
Gastropod	*Turritella*	snail, turret	Sespe-Vaqueros, undif
Gastropod	*Turritella*	snail, turret	Sespe-Vaqueros, undif
Mammal, large	Artiodactyla	artiodactyl	Sespe-Vaqueros, undif
Mammal, large	Palaeomerycidae	deer	Sespe-Vaqueros, undif
Mammal, marine	Balanidae	whale, baleen	Sespe-Vaqueros, undif
Mammal, marine	*Cornwallius sookensis*	sea cow	Sespe-Vaqueros, undif
Mammal, marine	*Desmostylus*	sea cow	Sespe-Vaqueros, undif
Mammal, marine	Mysteceti	whale, baleen	Sespe-Vaqueros, undif
Mammal, marine	Mysticeti	whale	Sespe-Vaqueros, undif
Mammal, marine	Mysticeti	whale, baleen	Sespe-Vaqueros, undif
Mammal, marine	Mysticeti	whale, baleen	Sespe-Vaqueros, undif
Mammal, marine	Mysticeti	whale, baleen	Sespe-Vaqueros, undif
Mammal, marine	Mysticeti	whale, baleen	Sespe-Vaqueros, undif
Mammal, marine	Odontoceti	whale, toothed	Sespe-Vaqueros, undif
Mammal, marine	Odontoceti	whale, toothed	Sespe-Vaqueros, undif
Mammal, small	*Cuyamalagus*	pika	Sespe-Vaqueros, undif
Mammal, small	*Dyseolemur*	tarsier	Sespe-Vaqueros, undif
Mammal, small	Erinaceidae	hedgehog	Sespe-Vaqueros, undif
Mammal, small	*Griphomys*	insectivore	Sespe-Vaqueros, undif
Mammal, small	*Griphomys*	insectivore	Sespe-Vaqueros, undif
Mammal, small	*Griphomys*	insectivore	Sespe-Vaqueros, undif
Mammal, small	Heteromyidae	rat, kangaroo	Sespe-Vaqueros, undif
Mammal, small	*Leidymys*	insectivore	Sespe-Vaqueros, undif
Mammal, small	*Leidymys*	insectivore	Sespe-Vaqueros, undif

Group	Taxon	Common Name	Formation
Mammal, small	*Leptotomus*	insectivore	Sespe-Vaqueros, undif
Mammal, small	*Metanoiamys*	insectivore	Sespe-Vaqueros, undif
Mammal, small	*Microparamys*	insectivore	Sespe-Vaqueros, undif
Mammal, small	*Microparamys*	insectivore	Sespe-Vaqueros, undif
Mammal, small	*Microparamys*	insectivore	Sespe-Vaqueros, undif
Mammal, small	*Miospermophilus*	squirrel	Sespe-Vaqueros, undif
Mammal, small	*Peratherium*	opposum	Sespe-Vaqueros, undif
Mammal, small	*Peratherium*	opposum	Sespe-Vaqueros, undif
Mammal, small	*Peratherium*	opposum	Sespe-Vaqueros, undif
Mammal, small	*Perognathus*	mouse, pocket	Sespe-Vaqueros, undif
Mammal, small	*Proheteromys*	rat, kangaroo	Sespe-Vaqueros, undif
Mammal, small	*Proheteromys*	rat, kangaroo	Sespe-Vaqueros, undif
Mammal, small	*Proheteromys*	rat, kangaroo	Sespe-Vaqueros, undif
Mammal, small	*Pseudotheridomys cuyamensis*	rodent	Sespe-Vaqueros, undif
Mammal, small	Rodentia	rodent	Sespe-Vaqueros, undif
Mammal, small	*Schizodontomys*	lizard, rodents	Sespe-Vaqueros, undif
Mammal, small	*Schizodontomys*	rodent	Sespe-Vaqueros, undif
Mammal, small	*Schizodontomys*	rodent	Sespe-Vaqueros, undif
Mammal, small	*Schizodontomys*	rodent	Sespe-Vaqueros, undif
Mammal, small	*Sespedectes*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Sespedectes*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Sespedectes singularis*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Sespedectes singularis*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Simimys*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Simimys*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Simimys simplex*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Simimys simplex*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Simimys simplex*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Tamias*	chipmunk	Sespe-Vaqueros, undif
Mammal, small	*Trogomys*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Trogomys*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Trogomys*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Trogomys*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Trogomys*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Trogomys*	shrew	Sespe-Vaqueros, undif
Mammal, small	*Yatkolamys*	vole	Sespe-Vaqueros, undif
Mammal, small	*Yatkolamys*	vole	Sespe-Vaqueros, undif
Reptile	Anguidae	lizard	Sespe-Vaqueros, undif
Reptile	Anguidae	lizard	Sespe-Vaqueros, undif
Reptile	Boidae	snake, boa	Sespe-Vaqueros, undif
Reptile	Lacertilia	lizard	Sespe-Vaqueros, undif
Reptile	*Palaeoxantusia*	lizard	Sespe-Vaqueros, undif
Reptile	*Parasauromalus*	lizard	Sespe-Vaqueros, undif
Bird	Pseudodontornidae	pelican	Sespe-Vaqueros, undif.
Fish, Bony	Actinopterygii	fish, ray finned	Sespe-Vaqueros, undif.
Fish, Bony	Albulidae	bonefish	Sespe-Vaqueros, undif.
Fish, Bony	*Rhinobatos*	guitarfish	Sespe-Vaqueros, undif.

Group	Taxon	Common Name	Formation
Fish, Cartilagenous	*Batoidea*	ray, bat	Sespe-Vaqueros, undif.
Fish, Cartilagenous	*Cetorhinus*	shark, basking	Sespe-Vaqueros, undif.
Fish, Cartilagenous	*Dasyatis*	stingray	Sespe-Vaqueros, undif.
Fish, Cartilagenous	*Gymnura*	ray, butterfly	Sespe-Vaqueros, undif.
Fish, Cartilagenous	*Heterodontus*	shark, horn	Sespe-Vaqueros, undif.
Fish, Cartilagenous	*Myliobatis*	ray, eagle	Sespe-Vaqueros, undif.
Fish, Cartilagenous	*Rhizoprionodon*	shark, requiem	Sespe-Vaqueros, undif.
Fish, Cartilagenous	*Rhynchobatus*	ray, wedge	Sespe-Vaqueros, undif.
Mammal, marine	Mysteceti	whale, baleen	Sespe-Vaqueros, undif.
Mammal, marine	Mysticeti	whale, baleen	Sespe-Vaqueros, undif.
Tree, hardwood	Magnoliophyta	leaf	Sespe-Vaqueros, undif.
Tree, hardwood	Magnoliophyta	leaf	Sespe-Vaqueros, undif.
Tree, hardwood	Magnoliophyta	leaf	Sespe-Vaqueros, undif.
Tree, hardwood	Magnoliophyta	leaf	Sespe-Vaqueros, undif.
Bivalve	*Ostrea* sp.	oyster	Vaqueros
Bivalve	*Ostrea* sp.	oyster	Vaqueros
Bivalve	*Ostrea vespertina*	oyster	Vaqueros
Fish, Cartilagenous	Carcharhinidae	shark	Vaqueros
Fish, Cartilagenous	*Cetorhinus*	shark, basking	Vaqueros
Fish, Cartilagenous	*Myliobatis*	ray, eagle	Vaqueros
Gastropod	*Turritella*	snail, turret	Vaqueros
Invertebrate	unlisted	marine invertebrates	Vaqueros
Invertebrate	unlisted	marine invertebrates	Vaqueros
Mammal, marine	*Argyrocetus*	whale, toothed	Vaqueros
Mammal, marine	Cetotheriidae	whale, primitive baleen	Vaqueros
Mammal, marine	Desmostylia	sea cow	Vaqueros
Mammal, marine	Desmostylus	sea cow	Vaqueros
Mammal, marine	Eomysticetidae	whale, baleen, primitive	Vaqueros
Mammal, marine	Morawanocetus sp.	whale, primitive baleen	Vaqueros
Mammal, marine	Squalodontidae	dolphin, shark-toothed	Vaqueros
Polychete	*Serpula* sp.	tube worm	Vaqueros
	†*Turritella inezana*	snail, turret	Vaqueros
	Pectinidae	oyster	Vaqueros
	Polychaeta	annelid worm	Vaqueros
Echinoid	*Antillaster* sp.	sea urchin	Topanga
Echinoid	Brissidae	sea urchin	Topanga
Echinoid	Brissidae	sea urchin	Topanga
Fish, Bony	Actinopterygii	fish, ray finned	Topanga
Fish, Bony	Actinopterygii	fish, ray finned	Topanga
Fish, Bony	Clupediae	herring	Topanga
Fish, Bony	Clupediae	herring	Topanga
Fish, Bony	Clupediae	herring	Topanga
Fish, Bony	Clupediae	herring	Topanga
Fish, Bony	Clupediae	herring	Topanga
Fish, Bony	*Ganolytes*	sardine	Topanga
Fish, Bony	*Ganolytes*	sardine	Topanga
Fish, Bony	*Scomber*	mackeral	Topanga

Group	Taxon	Common Name	Formation
Fish, Cartilagenous	*Echinorhychus* sp.	shark, bramble	Topanga
Plant	Myriophyllium	algae, freshwater	Topanga
Plant	Plantae	plant	Topanga
Tree, hardwood	*Acer*	maple	Topanga
Tree, hardwood	*Populus*	aspen	Topanga
Fish, Bony	Moridae	mora	Topanga Group
Fish, Bony	*Sphyrna* sp.	barracuda	Topanga Group
Fish, Cartilagenous	*Carcharhinus* sp.	shark, requiem	Topanga Group
Fish, Cartilagenous	*Echinorhinus* sp.	shark, bramble	Topanga Group
Fish, Cartilagenous	*Galeocerdo* sp.	shark, tiger	Topanga Group
Fish, Bony	†*Xyne grex*	herring	Topanga Group
Fish, Cartilagenous	*Hemipristis* sp.	snaggletooth shark	Topanga Group
Fish, Cartilagenous	*Odontaspis* sp.	ragged tooth shark	Topanga Group
Mammal, marine	Desmostylia	sea cow	Topanga?
Crab	Brachyura	crab	Monterey
Crab	Brachyura	crab	Monterey
Crab	Brachyura	crab	Monterey
Crab	Cancer	crab	Monterey
Crab	Cancer	crab	Monterey
Crab	Cancer	crab	Monterey
Crab	Eucardia	crab	Monterey
Crab	Parthenopidae	crab	Monterey
Crab	Parthenopidae	crab	Monterey
Crustacean	Squillidae	shrimp	Monterey
Echinoid	Echinoidea	sea urchin	Monterey
Fish, Bony	Actinopterygii	fish, ray finned	Monterey
Fish, Bony	Actinopterygii	fish, ray finned	Monterey
Fish, Bony	Actinopterygii	fish, ray finned	Monterey
Fish, Bony	Actinopterygii	fish, ray finned	Monterey
Fish, Bony	Actinopterygii	fish, ray finned	Monterey
Fish, Bony	Actinopterygii	fish, ray finned	Monterey
Fish, Bony	Clupediae, Engraulidae, Dussumieriidae	herrings	Monterey
Fish, Bony	Clupediae, Engraulidae, Dussumieriidae	herrings	Monterey
Fish, Bony	Clupediae, Engraulidae, Dussumieriidae	herrings	Monterey
Fish, Bony	Clupediae, Engraulidae, Dussumieriidae	herrings	Monterey
Fish, Bony	Clupediae, Engraulidae, Dussumieriidae	herrings	Monterey
Fish, Bony	Clupediae, Engraulidae, Dussumieriidae	herrings	Monterey
Fish, Bony	Clupediae, Engraulidae, Dussumieriidae	herrings	Monterey
Fish, Bony	Clupediae, Engraulidae, Dussumieriidae	herrings	Monterey
Fish, Bony	Cynoglossidae	tonguefish	Monterey
Fish, Bony	Cynoglossidae	tonguefish	Monterey

Group	Taxon	Common Name	Formation
Fish, Bony	*Ganolytes cameo*	sardine	Monterey
Fish, Bony	*Ganolytes cameo*	sardine	Monterey
Fish, Bony	*Ganolytes cameo*	sardine	Monterey
Fish, Bony	*Ganolytes cameo*	sardine	Monterey
Fish, Bony	*Ganolytes cameo*	sardine	Monterey
Fish, Bony	*Ganolytes cameo*	sardine	Monterey
Fish, Bony	Hippoglossoides	flounder	Monterey
Fish, Bony	Scombridae	mackeral	Monterey
Fish, Bony	*Symphurus*	tonguefish	Monterey
Fish, Bony	*Thyrsocles*	oilfish	Monterey
Fish, Cartilagenous	*Otodus megalodon*	shark, big toothed	Monterey
Fish, Cartilagenous	Euselachii	shark	Monterey
Fish, Cartilagenous	*Isurus planus*	shark, mako	Monterey
Mammal, marine	Balaenopteridae	whale, baleen	Monterey
Mammal, marine	Desmostylidae	sea cow	Monterey
Mammal, marine	Desmostylidae	sea cow	Monterey
Mammal, marine	Desmostylidae	sea cow	Monterey
Mammal, marine	*Desmostylus*	sea cow	Monterey
Mammal, marine	*Desmostylus*	sea cow	Monterey
Mammal, marine	*Desmostylus*	sea cow	Monterey
Mammal, marine	*Desmostylus*	sea cow	Monterey
Mammal, marine	*Desmostylus*	sea cow	Monterey
Mammal, marine	Mysteceti	whale, baleen	Monterey
Mammal, marine	Mysticeti	whale, baleen	Monterey
Mammal, marine	Mysticeti	whale, baleen	Monterey
Tree, hardwood	?*Acer*	maple	Monterey
Tree, hardwood	Magnoliophyta	leaf	Puente
Tree, hardwood	Magnoliophyta	leaf	Puente
Mammal, marine	Mysticeti	whale, baleen	Capistrano
Mammal, marine	Otariidae	seal, fur	Capistrano
Mammal, marine	*Pontolis magnus*	walrus	Capistrano
Bird	Aves	bird	Older alluvium
Mammal, large	*Bison antiquus*	bison, ancient	Older alluvium
Mammal, large	*Camelops hesternus*	camel, yesterday's	Older alluvium
Mammal, large	*Equus*	horse	Older alluvium
Mammal, large	*Equus*	horse	Older alluvium
Mammal, large	*Equus*	horse	Older alluvium
Mammal, large	*Equus*	horse	Older alluvium
Mammal, large	*Equus*	horse	Older alluvium
Mammal, large	*Equus*	horse	Older alluvium
Mammal, large	*Equus*	horse	Older alluvium
Mammal, large	*Equus occidentalis*	horse	Older alluvium
Mammal, large	*Equus* sp.	horse	Older alluvium
Mammal, large	*Mammut*	mastodon	Older alluvium
Mammal, large	*Mammut*	mastodon	Older alluvium
Mammal, large	*Mammut pacificus*	mastodon	Older alluvium
Mammal, large	*Mammuthus*	mammoth	Older alluvium

Group	Taxon	Common Name	Formation
Mammal, large	*Mammuthus columbi*	mammoth, Columbian	Older alluvium
Mammal, large	*Megalonyx*	ground sloth, Jefferson's	Older alluvium
Mammal, large	*Megalonyx jeffersoni*	ground sloth, Jefferson's	Older alluvium
Mammal, large	*Ursus arctos*	bear, grizzly	Older alluvium
Mammal, small	*Lepus californicus*	jackrabbit	Older alluvium
Mammal, small	Mammalia	mammal	Older alluvium
Mammal, small	*Microtus*	vole	Older alluvium
Mammal, small	*Neotoma*	rat, wood	Older alluvium
Mammal, small	*Neotoma*	rat, wood	Older alluvium
Mammal, small	*Otospermophilus beecheyi*	squirrel, ground	Older alluvium
Mammal, small	*Peromyscus*	mouse, deer	Older alluvium
Mammal, small	Rodentia	rodent	Older alluvium
Mammal, small	*Sylvilagus*	rabbit, brush	Older alluvium
Mammal, small	*Sylvilagus bachmani*	rabbit, brush	Older alluvium
Mammal, small	*Thomomys*	gopher, pocket	Older alluvium
Mammal, small	*Thomomys*	gopher, pocket	Older alluvium
Mammal, small	*Thomomys bottae*	gopher, pocket	Older alluvium
Mammal, small	*Thomomys bottae*	gopher, pocket	Older alluvium
Bird	Aves	bird	Pleistocene alluvium
Mammal, large	*Bison antiquus*	bison, ancient	Pleistocene alluvium
Mammal, large	*Bison antiquus*	bison, ancient	Pleistocene alluvium
Mammal, large	*Bison antiquus*	bison, ancient	Pleistocene alluvium
Mammal, large	*Bison* sp.	bison	Pleistocene alluvium
Mammal, large	*Bison* sp.	bison	Pleistocene alluvium
Mammal, large	*Camelops* sp.	camel	Pleistocene alluvium
Mammal, large	Edentata	ground sloth, giant	Pleistocene alluvium
Mammal, large	*Equus* sp.	horse	Pleistocene alluvium
Mammal, large	*Mammuthus columbi*	mammoth, Columbian	Pleistocene alluvium
Mammal, large	*Mammuthus imperator*	mammoth, imperial	Pleistocene alluvium
Mammal, large	*Megalonyx jeffersonii*	ground sloth, Jefferson's	Pleistocene alluvium
Mammal, large	Mylodontidae	ground sloth, giant	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	*Paramylodon harlani*	ground sloth, Harlan's	Pleistocene alluvium
Mammal, large	Proboscidea	proboscidean	Pleistocene alluvium

Group	Taxon	Common Name	Formation
Mammal, small	Rodentia	rodent	Pleistocene alluvium
Bivalve	*Tagelus californianus*	clam, tagelus	Pleistocene marine
Bivalve	*Tagelus californianus*	clam, tagelus	Pleistocene marine
Mammal, large	Artiodactyla	artiodactyl	Quaternary alluvium
Mammal, small	*Thomomys* sp.	gopher, pocket	Quaternary alluvium
Mammal, small	*Perognathus*	mouse, pocket	Younger alluvium
Mammal, small	*Peromyscus*	mouse, deer	Younger alluvium
Reptile	*Pituophis*	snake, gopher	Younger alluvium
Snake	*Crotalus*	rattlesnake	Younger alluvium

APPENDIX D. CULTURAL RESOURCE STUDIES

Report No.	Authors	Title	Year	Quad
OR-00003	King, Thomas F.	An Archaeological Reconnaissance of the Irvine Town Center Project, Orange County, California	1973	Tustin
OR-00008	Gothold, Jane and Maguire, John	Pacific Coast Archaeological Society Survey Along the North Side of the San Diego Freeway	1973	El Toro, Tustin
OR-00058	Desautels, Roger J.	Archaeological Report on the Survey of Meadow Mobile Homes Proposed Development North Irvine, Calif.	1976	Tustin
OR-00081	Desautels, Roger J.	Archaeological Survey Report on Tentative Tract No. 9379 - Lots A - 6 and A - 5 of Tract No.282 in the City of Irvine, Calif.	1976	Tustin
OR-00134	Desautels, Roger J.	Archaeological Survey Report on a Four Acre Parcel of Land Located in the Irvine Industrial Area, Irvine, California	1976	Tustin
OR-00142	Desautels, Roger J.	Archaeological Survey Report on the North Irvine Assessment District Located in The	1976	Tustin
OR-00147	Desautels, Roger J.	Archaeological Survey Report on Tentative Tract 9623 Located in the City of Irvine, County of Orange	1976	Tustin
OR-00206	Mabry, Theo N.	Test Level Investigations Conducted at CA-ORA-228 Turtle Rock, Irvine, California	1978	Tustin
OR-00233	Cottrell, Marie G.	Archaeological Survey Report for Village 12 and Village 14 (ORA-508 and ORA-543)	1977	Tustin
OR-00234	Cottrell, Marie G.	Addendum to Previous Report on Reach 4, Santiago Canyon Parallel Aqueduct	1978	El Toro
OR-00235	Cottrell, Marie G.	Report of Preliminary Archaeological Survey Conducted for the San Joaquin Hills Transportation Corridor	1978	Tustin
OR-00246	Cottrell, Marie G.	Report of Archaeological Resources Assessment Conducted for the Irvine Industrial Complex-west	1978	Tustin
OR-00252	Desautels, Roger J.	Cultural Resources Report- Preliminary Assessment on the Proposed San Diego Creek Watershed Erosion and Sedimentary Control System in Hicks Canyon, Hicks Canyon Wash, Rattlesnake Creek Wash, San Diego Creek, and the San Joaquin Marsh Located in Orange County	1978	El Toro, Tustin
OR-00253	Desautels, Roger J.	The Proposed Bee and Round Canyon Landfill Disposal Station Located in the County of Orange, California	1978	El Toro
OR-00274	Anonymous	Report of Archaeological Resources Survey Conducted for Laguna and Peter's Canyons	1978	Black Star Canyon, El Toro, Laguna Beach, Orange, San Juan Capistrano, Tustin
OR-00275	Mabry, Theo N.	Agua Chinon Flood Control Improvement Project	1978	El Toro

Report No.	Authors	Title	Year	Quad
OR-00284	Cottrell, Marie G.	Test Level Investigation Conducted for Site CA-ORA-287 (ORA-121)	1978	Tustin
OR-00285	Cottrell, Marie G.	Archaeological Investigations Conducted at CA-ORA-196, Irvine, California	1979	Tustin
OR-00286	Bean, Lowell	Cultural Resources and the High Voltage Transmission Line from San Onofre to Santiago Substation and Black Star Canyon	1979	Black Star Canyon, Canada Gobernadora, El Toro, Laguna Beach, San Juan Capistrano, Tustin
OR-00302	Unknown	A Preliminary Archaeological Overview: the Santiago County Water District Sewage Master Plan	1978	Black Star Canyon, El Toro
OR-00303	Unknown	Archaeological Records Search and Reconnaissance Survey Irvine Center Drive and Jeffery Road	1979	Tustin
OR-00304	Dodge, William A.	An Archaeological Assessment of Eight Cultural Localities Along the San Onofre-Santiago 220 Kv Transmission Line	1978	San Juan Capistrano, Tustin
OR-00305	Schroth, Adella	The History of Archaeological Research on Irvine Ranch Property: the Evolution of a Company Tradition	1979	Black Star Canyon, El Toro, Laguna Beach, Orange, San Juan Capistrano, Tustin
OR-00314	Desautels, Roger J.	Archaeological Survey Report on 2.875 Acres Located on Main Street, Irvine, County of Orange	1978	Tustin
OR-00328	Mabry, Theo N. and Thomas Taylor	Test-level Investigations Conducted on ORA-379, Irvine, CA	1979	Tustin
OR-00339	Craib, John L.	The Archaeology of a Late Horizon Midden (CA-ORA-197) on Newport Bay, Phase II	1977	Tustin
OR-00347	Allen, Lawrence P.	Archaeological Testing at CA-ORA-508, Village 14, City of Irvine	1979	Tustin
OR-00351	Rice, Glen E.	A Test Investigation of CA-ORA-119, Locus C, and a Report on a Rock Feature in Locus A	1976	Tustin
OR-00352	Cottrell, Marie G.	Preliminary Report of Fieldwork at 4-ORA-130	1977	Laguna Beach
OR-00353	Ellis, Robert R.	Archaeological Test Excavations at Site ORA-121, Orange County, California	1973	Tustin
OR-00362	Desautels, Roger J.	Archaeological Report: CA-ORA 195, Orange County, California	1967	Tustin
OR-00363	Cottrell, Marie G.	Test Level Investigations Conducted at Archaeological Sites CA-ORA-196 and CA-ORA-197	1976	Tustin
OR-00367	Ellis, Robert R.	Archaeological Report of Test Excavations at Site Ora 373 Orange County, California	1973	Tustin

Report No.	Authors	Title	Year	Quad
OR-00383	Van Horn, David M.	Archaeological Survey and Report on Fifty-seven Acres of Undeveloped Land in Modjeska Canyon, Orange County, Cal.	1977	El Toro
OR-00399	Unknown	Archaeological Salvage Program at Locus B and the Peripheral Sector of Locus A, ORA-287 (ORA-121), Irvine, California	1979	Tustin
OR-00408	Strozier, Hardy	Rancho San Joaquin Historical/archaeological Survey-phase I	1975	Tustin
OR-00409	Rice, Glen E.	Test Investigations at ORA-119, Locus B	1976	Tustin
OR-00410	Rice, Glen E. and Cottrell, Marie	Report of Excavations at CA-ORA-111, Locus II	1975	Tustin
OR-00411	Bingham, Jeffery C.	Test Excavations for CA-ORA-111 in Orange County, California	1975	Tustin
OR-00417	Mabry, Theo N.	Archaeological Reconnaissance Survey Enclaves V and VI, Turtle Rock Irvine, CA.	1979	Tustin
OR-00421	Mabry, Theo N.	Archaeological Reconnaissance of 11-acre Bonita Canyon Baptist Church Site, Orange County, California	1979	Tustin
OR-00427	Mabry, Theo N.	Test-level Investigations, North Bluffs of Upper Newport Bay, Newport Beach, CA.	1979	Tustin
OR-00428	Howard, Jerry B.	Archaeological Investigations Conducted at CA-ORA-373, an Encinitas Tradition Site in Orange County, California	1979	Tustin
OR-00435	Stickel, Gary E.	City of Los Angeles Hyperion Water Pollution Control Facilities County of Los Angeles Joint Water Pollution Control Plant, and Orange County Sanitation District Proposed Round Canyon Site	1979	El Toro
OR-00438	Unknown	Historic Property Survey Moulton Parkway/Irvine Center Drive Cities of Tustin and Irvine	1979	Tustin
OR-00440	Mabry, Theo N.	Records Search and Reconnaissance Harvard Avenue Extension City of Irvine, California	1979	Tustin
OR-00441	Mabry, Theo N.	Archaeological Records Search and Reconnaissance Survey Main Street/jamboree Road, Irvine, California	1979	Tustin
OR-00452	Anonymous	Archaeological Salvage Program at CA-ORA-508 Irvine, California	1979	Tustin
OR-00455	Anonymous	Archaeological Records Search and Reconnaissance Yale Avenue Right-of-ways, Irvine California	1979	Tustin
OR-00456	Mabry, Theo N.	Archaeological Records Search and Reconnaissance Survey Turtle Rock Enclaves 6 and 7	1979	Tustin

Report No.	Authors	Title	Year	Quad
OR-00483	Gill, Pamela	A Report of the Excavation at CA-ORA-120, a Project Presented to the Faculty of California State University, Fullerton, in Partial Fulfillment of the Requirements for the Degree in Master of Arts in Anthropology	1974	Tustin
OR-00486	Mitchell, Laura Lee	Woodbridge Observer Survey Project Report on Following Heavy Grading in the City of Irvine by the Pacific Coast Archaeological Society	1976	Tustin
OR-00488	Anonymous	Archaeological Investigation of a Late Prehistoric Horizon Site, CA-ORA-379, City of Irvine, California	1980	Tustin
OR-00489	Cottrell, Marie and Adella Schroth	Report of Test Excavations Conducted at CA-ORA-350, a Rockshelter at Turtle Rock Enclave V, Orange County, California	1980	Tustin
OR-00492	Anonymous	Archaeological Records Search and Field Survey Northwood Project Sited Number One and Two, City of Irvine, California	1980	Tustin
OR-00494	Singer, Clay A.	Preliminary Assessment of Cultural Resources Within the Proposed Peters Canyon Regional Park, Orange County	1976	Black Star Canyon, Orange
OR-00519	Unknown	Limited Testing on CA-ORA-373 Home Improvement Center City of Irvine, CA.	1980	Tustin
OR-00520	Mabry, Theo N.	Archaeological Records Search and Reconnaissance Survey Irvine Industrial Complex-east Phase 2 and 3 Areas Irvine, CA.	1979	El Toro
OR-00531	Hurd, Gary S.	Test Excavation for CA-ORA-116	1980	Tustin
OR-00532	Hurd, Gary S.	Cultural Resources of the Irvine Campus	1980	Tustin
OR-00544	Colegrove, Stephen E.	Archaeological Survey Report for Turtle Rock Planning Area	1973	Tustin
OR-00570	Anonymous	File Report on CA-ORA-342	1980	Tustin
OR-00574	Stickel, Gary E. and Jerry B. Howard	Final Report of a Cultural Resource Survey of the University of California, Irvine	1976	Tustin
OR-00581	McCoy, Lesley C. and Kirkish, Alex N.	Cultural Resources Data Recovery Program for the 230kv Transmission Line Rights-of-way From San Onofre Nuclear Generating Station to Black Star Canyon and Santiago Substation and to Encina and Mission Valley Substations	1982	Black Star Canyon, El Toro, Laguna Beach, San Juan Capistrano, Tustin
OR-00586	Douglas, Ronald D.	Assessment of Cultural/scientific Resources, Village 12, Sce Hvtl Relocation, Irvine, California	1980	Tustin
OR-00589	Kaldenberg, Russell L.	Archaeological Investigations at the World Medical Foundation Site Orange County, California	1976	Tustin
OR-00592	Douglas, Ronald D. and Edward C. Gardener	Cultural Resource Assessment Irvine Meadows Amphitheater Development Site Irvine, California	1981	El Toro, Tustin

Report No.	Authors	Title	Year	Quad
OR-00596	Mabry, Theo N.	Archaeological Records Search and Reconnaissance Survey: Orangetree Park 20-arce Initial Study, Irvine, CA.	1979	Tustin
OR-00599	Jertberg, Patricia R.	An Archaeological Resources Assessment Conducted for the Widening and Realignment of Irvine Blvd. Orange County, California	1981	El Toro, Tustin
OR-00615	Douglas, Ronald D.	Archaeological Resource Survey Northern Inland Coastal Hills Planning Area Orange County, California	1981	Tustin
OR-00621	Weisbord, Jill	Cultural Resource Survey of the Irvine Center Da, Village 13	1981	Tustin
OR-00634	Padon, Beth	Cultural Resource Survey for General Plan Amendment, Bommer and Shady Canyons, Orange County, California	1982	Laguna Beach, Tustin
OR-00645	Mabry, Theo N.	Archaeological Survey Report for Proposed Improvements to Jeffrey Road and I-5 Freeway, City of Irvine, Calif.	1981	Tustin
OR-00647	Gardener, Edward	Cultural Resources Records Search and Field Survey Northwood Project Sites 3 and 4 City of Irvine, Calif.	1981	Tustin
OR-00648	Breece, Bill and Beth Padon	Cultural Resource Survey: Archaeological Resources: Foothill Transportation Corridor, Phase II	1982	Black Star Canyon, El Toro, Orange, Tustin
OR-00668	Tadlock, Jean and W. Lewis Tadlock	San Joaquin Hills Transportation Corridor Cultural Resources Study -- Archaeology --	1979	Laguna Beach, Tustin
OR-00669	Padon, Beth	Assessment of Archaeological and Paleontological Resources Irvine Medical Complex Irvine, CA	1983	Tustin
OR-00671	Padon, Beth	Assessment of Archaeological and Paleontological Resources Irvine Medical Center Irvine, California	1983	Tustin
OR-00672	Padon, Beth	Assessment of Archaeological Resources, RV Storage Project Irvine, California	1983	Tustin
OR-00675	Drover, Christopher E.	Environmental Impact Evaluation: Laguna/Laurel Biological and Cultural -- Scientific Resource Assessment. Archaeological Element	1982	Laguna Beach
OR-00683	Douglas, Ronald D.	Archaeological and Paleontological Resource Assessment, Turtle Rock Enclave Eight Irvine, California	1981	Tustin
OR-00687	Cottrell, Marie G.	Archaeological Resources Assessment Conducted for the Laurel Canyon Area of the Laguna - Laurel Planned Community	1983	Laguna Beach
OR-00693	Cottrell, Marie G.	Tomato Springs: The Identification of a Jasper Trade and Production Center in Southern California		El Toro
OR-00696	Cottrell, Marie and K. Del Chario	Archaeological Investigations of the Tomato Springs Sites	1981	El Toro

Report No.	Authors	Title	Year	Quad
OR-00697	Padon, Beth	Archaeological Records Search and Field Review of the 30-acre Parcel at the Iic-east Phase 3 Project Site for Monitoring	1983	El Toro
OR-00698	Padon, Beth	Historic Property Survey Report Proposed Yale Avenue/ I-5 Over Crossing, Irvine California	1983	Tustin
OR-00700	Gardener, Edward	Cultural Resource Assessment, Laguna Lakes Golf Course Development Property, Orange County, California	1981	Laguna Beach, San Juan Capistrano, Tustin
OR-00714	Cottrell, Marie G.	Archaeological Resources Assessment: Coyote Canyon Sanitary Landfill	1983	Laguna Beach, Tustin
OR-00715	Drover, Christopher E.	Environmental Impact Evaluation: Laguna/Laurel Biological and Cultural--Scientific Resource Assessment. Archaeological Element	1982	Laguna Beach
OR-00716	Tadlock, Jean and W. Lewis Tadlock	San Joaquin Hills Transportation Corridor Cultural Resources Study -- Archaeology --	1979	Laguna Beach, Tustin
OR-00718	Van Horn, David M., J.D. Cooper, E. Crespin, and J.R. Murray	A Cultural/Scientific Resources Investigation of the Planned San Joaquin Hills Transportation Corridor (phase II)	1983	Laguna Beach, San Juan Capistrano, Tustin
OR-00720	Cottrell, Marie G.	San Joaquin Transportation Corridor: An Annotated List of Archaeological Reports Referenced by Number.	1983	Laguna Beach, San Juan Capistrano, Tustin
OR-00721	Weisbord, Jill and Edward Weil	Archaeological Monitoring Activities at CA-ORA-178 University Drive Widening Project, City of Irvine, California November-December, 1983.	1983	Tustin
OR-00726	Padon, Beth A.	Archaeological Field Review Village 19a Project, City of Irvine, CA.	1984	Tustin
OR-00732	Padon, Beth	Archaeological Monitoring for Turtle Rock Enclave VI Project	1984	Tustin
OR-00737	Padon, Beth	Cultural Resources Assessment Planning Area 34b Orange County, California	1984	El Toro
OR-00741	Romani, John F.	Archaeological Survey Report For the Proposed Widening of Route ORA-133, Between Canton Acres Drive and I-405 Pm. 1.09-8.23 07-210-003940	1984	Tustin
OR-00742	Padon, Beth	Historic Property Survey Report for Irvine Center Drive Widening	1984	El Toro
OR-00743	Padon, Beth	Historic Property Survey Report for the Proposed Sand Canyon/I-405 Interchange City of Irvine, California (ORA-405-2.9)	1984	Tustin
OR-00744	Padon, Beth	Negative Archaeological Survey Report, Route I-405 25.8	1984	Tustin
OR-00747	Wlodarski, Robert J. and John F. Romani	Negative Archaeological Survey Report: the Proposed Project Involved the I-5 Interchange at Myford Road Where Several Alternatives are Proposed	1984	Tustin

Report No.	Authors	Title	Year	Quad
OR-00752	Mason, Roger D.	Eastern Corridor Alignment Study, Orange County, California; Volume II: Prehistory and History	1984	Black Star Canyon, El Toro, Orange, Tustin
OR-00753	Padon, Beth	Archaeological Resource Assessment Irvine Industrial Complex East Phase IV, City of Irvine.	1984	El Toro
OR-00754	Padon, Beth	Cultural Resource Assessment, Irvine Center Project, Orange County, California	1984	El Toro, Tustin
OR-00761	Anonymous	Cultural Resource Assessment Village 12 Development Site Irvine, California	1981	Tustin
OR-00762	Ahlering, Michael L.	A Discussion of Scientific Cultural Resources in Relation to the North Irvine Precise Land Use Plan		Tustin
OR-00764	Padon, Beth	Archaeological Records Search for the Commercial Core Area of University Town Center	1983	Tustin
OR-00771	Padon, Beth	Archaeological Assessment of the Irvine Technology Center of Irvine	1985	El Toro, Tustin
OR-00774	Brock, James P.	Archaeological, Paleontological and Historical Resources Assessment Report for the U.C. Irvine North Campus Property	1985	Tustin
OR-00783	Padon, Beth	An Archaeological Assessment of the North Ford/university Avenue Project , City of Newport Beach	1985	Tustin
OR-00784	Cady, R.L.	Historic Property Survey-Negative Findings	1985	El Toro, Tustin
OR-00785	Padon, Beth	Archaeological Monitoring for the Northwood Horizon Project	1985	Tustin
OR-00786	Padon, Beth	Archaeological Monitoring for the Northwood Place Apartment Project	1985	Tustin
OR-00787	Padon, Beth	Archaeological and Paleontological Monitoring for the Irvine Center Project	1985	El Toro, Tustin
OR-00802	Padon, Beth	An Archaeological Assessment Village 12 City of Irvine	1985	Tustin
OR-00805	Padon, Beth	Archaeological Monitoring for the Westpark Project	1986	Tustin
OR-00807	Les, Kathleen	Draft Environmental Impact Report Santiago Aqueduct Parallel Reaches 2-6	1978	El Toro
OR-00808	Unknown	Final Environmental Impact Report Regional Domestic Water Storage and Transmission Facilities From Diemer/sac and Wellfield Systems to Existing Distribution Network	1979	El Toro, San Juan Capistrano
OR-00814	Romani, John F.	ARCHAEOLOGICAL SURVEY REPORT for the Route I-5 Santa Ana Transportation Corridor, Route 405 in Orange County to Route 605 in Los Angeles County Pm 21.30/44.38; 0.00/6.85	1982	El Toro, Orange, Tustin
OR-00829	Breece, Bill and Beth Padon	Archaeological Investigation at CA-ORA-228	1986	Tustin

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OR-00830	Padon, Beth	Cultural/scientific Assessment of the Laguna Canyon Road Project	1986	Tustin
OR-00841	Mason, Roger D.	Archaeological, Historical, and Paleontological Assessments for Planning Area 34b, City of Irvine	1986	El Toro
OR-00847	Padon, Beth	Archaeological Resource Inventory City of Irvine and its Sphere of Influence	1985	Black Star Canyon, El Toro, Laguna Beach, Orange, San Juan Capistrano, Tustin
OR-00856	Padon, Beth	Archaeological and Paleontological Field Review: Irvine Business Complex, City of Irvine		Tustin
OR-00863	Bissell, Ronald M.	Cultural Resources Reconnaissance of Jamboree Center, Phase 2, Irvine, Orange County, California	1987	Tustin
OR-00867	Brock, James P.	Archaeological Monitoring at the Centerstone Plaza Project, Southeast Corner of Culver and Barranca, Irvine, California	1987	Tustin
OR-00868	Padon, Beth	Historic Property Survey Report for the I-5/I-405 Confluence City of Irvine, CA	1987	El Toro, San Juan Capistrano
OR-00869	Rosenthal, Jane and Beth Padon	An Archaeological Overview of the Coyote Canyon Sanitary Landfill Final Report	1987	Laguna Beach, Tustin
OR-00906	Padon, Beth and Pat Jertberg	Cultural Resources Report for the San Diego Creek Drainage Basin Project Level Facilities Orange County	1988	Tustin
OR-00907		Cultural Resources Investigation of the Loma Ridge Project Site	1988	Black Star Canyon
OR-00925	Padon, Beth	Report on Paleontological and Archaeological Monitoring Coyote Canyon Landfill Orange County, California	1988	Laguna Beach, Tustin
OR-00932	Bissell, Ronald M.	Cultural Resources Reconnaissance of a 4.5 Parcel in the City of Irvine, Orange County, California	1988	Tustin
OR-00933	Bissell, Ronald M.	Cultural and Paleontological Resources Reconnaissance of the Long Range Development Plan Study Area, University of California, Irvine, Orange County, California	1988	Tustin
OR-00939	Bissell, Ronald M.	Archaeological Resources Reconnaissance of the Long Range Development Plan Study Area, University of California, Irvine, Orange County, California	1988	Tustin
OR-00954	Farnsworth, Paul S. and N. Whitney-Desautels	Determination of National Register Eligibility and Treatment Plan and Data Recovery Program for Archaeological Sites on the Coyote Canyon Sanitary Landfill Property, Orange County, California	1989	Laguna Beach, Tustin

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OR-00969	Jertberg, Patricia R.	Cultural Resource Assessment Jamboree Road Widening	1989	Tustin
OR-00972	Jertberg, Patricia R.	Archaeological and Paleontological Monitoring at Spectrum I Parcel #87-212	1989	El Toro, Tustin
OR-00981	Breece, William H.	Results of the Survey and Test Phase Investigations at CA-ORA-218 and CA-ORA-1041 University of California, Irvine, Orange County	1989	Tustin
OR-00983	Bissell, Ronald M.	Cultural Resources Reconnaissance of East Orange Planning Area 1, 1,800 Acres in Eastern Orange County, California	1989	Black Star Canyon, Orange
OR-00990	Mabry, Theo N. and Ronald D. Douglas	A Test-level Investigation of CA-ORA-729, Bonita Canyon Creek, City of Irvine, California	1979	Tustin
OR-00991	Jertberg, Patricia R.	Archaeological and Paleontological Monitoring at Multi-modal Transportation Center: Dear Steve:	1989	El Toro
OR-00997	Jertberg, Patricia R.	Archaeological Monitoring for Tentative Parcel No. 88-151, Lots 1, A, 3, 4, and 5	1990	Tustin
OR-01011	Sorensen, Jerrell H.	Archival Research for Interstate 5, From the Confluence With I 405 to Route 1, Capistrano	1990	El Toro, San Juan Capistrano
OR-01015	Jertberg, Patricia R.	Archaeological and Paleontological Monitoring at Spectrum V Wire Center Project Area	1990	El Toro
OR-01022	Del Chario, Kathleen C., V. Drummy-Chapel, and C. R. Demcak	Cultural Resource Assessment for the Allen-mccolloch Pipeline (amp) Flow Augmentation Project Reaches S4b/s5	1989	El Toro
OR-01026	Mason, Roger D.	Cultural Resources Survey Report Santiago Canyon Road Alignment Study Orange County, California	1990	Black Star Canyon, El Toro, Orange
OR-01032	White, Robert S.	Archaeological Resource Assessment Two Road Alignments Within Village 34 Lake Forest Drive and Bake Parkway Orange County, California	1990	El Toro, Tustin
OR-01040	Jertberg, Patricia R.	Archaeological and Paleontological Monitoring Report for Tract 13627	1990	Orange, Tustin
OR-01046	Jertberg, Patricia R.	Archaeological Monitoring Results - Amherst Court Project Letter: Dear Ms. Griffiths	1990	Tustin
OR-01048	Jertberg, Patricia R.	Archaeological Monitoring Report Tustin Ranch Lot 14 Tract 13746. Archaeological Survey Letter: Dear Mr. Haaland	1990	Tustin
OR-01058	Jertberg, Patricia R.	Archaeological and Paleontological Monitoring for Bison and Berkeley Avenues Extensions	1990	Tustin
OR-01068	Shinn, Juanita R.	Cultural Resources Reconnaissance of the 25 Acre Irvine Planning Area 23 Project Orange County, California	1991	Tustin
OR-01070	Jertberg, Patricia R.	Archaeological Monitoring for Turtle Rock Enclave VII Project	1990	Tustin

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OR-01072	Jertberg, Patricia R.	Final Report on Archaeological Monitoring at Coyote Canyon Sanitary Landfill Orange County, California	1990	Laguna Beach, Tustin
OR-01075	Breece, William H. and Jane Rosenthal	The Results of the Test Excavation at CA-ORA-767 A/B, Laguna Canyon Orange County	1990	Tustin
OR-01079	Jertberg, Patricia R.	Archaeological Monitoring Report for Tract #13786	1990	Tustin
OR-01082	Jertberg, Patricia R.	Archaeological Monitoring Report for Rheon USA Project: Parcel Map No. 84-629, Lot 6 Irvine, California	1990	El Toro
OR-01085	Jertberg, Patricia R.	Archaeological Monitoring for the State Farm Project Area	1991	Tustin
OR-01096	Breece, William H.	Archaeological Monitoring at the LUSD Project Site, Irvine	1990	Tustin
OR-01098	Padon, Beth	Cultural/Scientific Resources Assessment for Planning Area 13	1991	Tustin
OR-01099	Cooley, Theodore G.	Archaeological Resources Assessment Conducted for Proposed Irvine Ranch Water District Pipeline Right of Ways	1979	Black Star Canyon, El Toro, Orange, Tustin
OR-01101	Brown, Joan C.	Salvage Procedures at CA-ORA-1248, an Archaeological Site Located in Irvine, Orange County, California	1991	Tustin
OR-01103	Desautels, Nancy A.	Cultural Resource Investigation for the Loma Ridge Project Site, Orange County, California	1990	Black Star Canyon
OR-01108	Padon, Beth	Archaeological and Paleontological Resource Assessment, Laguna Canyon Reclaimed Water Facilities	1991	El Toro
OR-01109	Padon, Beth	Addendum to the Historic Property Survey Report for Irvine Center Drive Widening	1986	El Toro
OR-01115	Desautels, Nancy A.	Cultural Resource Investigation for the Expansion of the Loma Ridge Communication Center Orange County, California	1991	Black Star Canyon
OR-01120	Marmor, Jason D.	Historic Architectural Survey Report for a Segment of Macarthur Boulevard Pacific Coast Highway to University Drive Newport Beach/Irvine, Orange County, California	1991	Laguna Beach, Tustin
OR-01123	Clevenger, Joyce M.	Archaeological Salvage Program at Locus B and the Peripheral Sector of Locus A, ORA-287 Irvine, California.	1979	Tustin
OR-01124	Clevenger, Joyce M.	Archaeological Investigations at CA-ORA-287 a Multicomponent Site on Newport Bay.	1986	Tustin
OR-01125	Koerper, Henry C. and Christopher E. Drover	Chronology Building for Coastal Orange County: the Case From CA-ORA-119-A.	1983	Tustin

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OR-01127	Rosenthal, Jane	Past to Present: Cultural and Scientific Resources, an Archival Inventory Irvine Ranch Open Space Reserve Orange County, California	1991	Black Star Canyon, El Toro, Laguna Beach, Orange, San Juan Capistrano, Tustin
OR-01131	Follett, W. I.	Fish Remains from Archaeological Sites at Irvine Orange County California	1966	Tustin
OR-01133	De Barros, Philip and Henry C. Koerper	Final Test Investigation Report and Request for Determination of Eligibility for 23 Sites Along the San Joaquin Hills Transportation Corridor	1990	Laguna Beach, San Juan Capistrano, Tustin
OR-01143	Bissell, Ronald M.	Cultural Resources Reconnaissance of Two Small Parcels Near the Marine Corps Air Station, Tustin, California and a Larger parcel within Mile Square Park, Fountain Valley, Orange County, California	1990	Tustin
OR-01149	Douglas, Ronald D.	An Unusual Groundstone Artifact	1979	Tustin
OR-01164	Evans, Stuart A.	A Cultural Resources Reconnaissance of the San Diego Creek Improvement/Barranca Parkway Connection, Approximately 70 Acres in Irvine, Orange County, California.	1991	Tustin
OR-01170	Rosenthal, Jane	Addendum to Cultural Resources Assessment Jamboree Road Widening Irvine, California	1991	Tustin
OR-01171	Cooley, Theodore G.	A Scientific Resources (Archaeological, Paleontological, and Historical) Survey of a Proposed Gravel Extraction Haul Road.	1974	Black Star Canyon, El Toro
OR-01196	Padon, Beth	Archaeological Assessment of CA-ORA-341 Irvine, Orange County, CA	1992	Tustin
OR-01202	Jones, Carleton S., Kathleen C. Allen, and Carol R. Demcak	Archaeological Investigations at CA-ORA-1194, a Plant-processing Site Near Upper Newport Bay	1992	Tustin
OR-01209	Jertberg, Patricia R. and Dianne Marsh	Tin Shed-Village 38 Irvine Ranch Irvine, California	1991	Tustin
OR-01213	Rosenthal, Jane	A Cultural Resources Assessment of the All American Asphalt Plant, City of Irvine Sphere of Influence, Orange County, California	1992	El Toro
OR-01214	Del Chario, Kathleen C and Marie G. Cottrell	Report of a Cultural\Scientific Resources Survey Conducted for the Supplemental Study Area (Alignments 72a, 73, 73a, and 83a) Eastern Transportation Corridor	1986	Tustin
OR-01220	Koerper, Henry C.	A Speculation on the Existence of Talon-Shaped Exotics in Southern California	1988	Tustin
OR-01223	Koerper, Henry C., A.J.T. Jull, T.W. Linick, and L.J. Toolin	A Tandem Accelerator Mass Spectrometer (TAMS) C-14 Date for a Haliotis Fishhook	1988	Tustin
OR-01233	Cottrell, Marie G. and Hugh M. Wagner	Tomato Springs: Additional Research Results	1990	El Toro

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OR-01234	Koerper, Henry C. and Clay A. Singer	Two Unusual Perforated Stones from the Newport Bay Area	1988	Tustin
OR-01254	Mason, Roger D., Mark L. Peterson, Brant A. Brechbiel, Clay A. Singer, Paul E. Langenwalter II, and Tony Morgan	Newport Coast Archaeological Project Results of Data Recovery from Sites Impacted by Construction of Pelican Hill Road Segment B (Newport Coast Drive)	1991	Tustin
OR-01276	De Barros, Phillip	Boundary Delineation of CA-ORA-196/h Irvine Ranch Water District Demonstration Gardens Project	1993	Tustin
OR-01282	Babal, Marianne, Jane Rosenthal, and Beth Padon	Historic Documentation Irvine Ranch Water District Caretaker House Bryan Road, Irvine California	1992	Tustin
OR-01297	Bissell, Ronald M.	Cultural Resources Reconnaissance of a Small Parcel of Land Near in Irvine, Orange County, California	1993	El Toro
OR-01309	Macko, Michael E.	Final Report Summary of Archaeological Monitoring, Test Excavations, and Data Recovery for the Foothill Transportation Corridor Northern Segment	1993	El Toro
OR-01310	Macko, Michael E. and Gary Hurd	Results of Archaeological Test Excavations for the Foothill Transportation Corridor Northern Segment, Construction Section F8 and F9	1992	El Toro
OR-01311	Macko, Michael E. and Gary Hurd	Final Report Early Settlement in Agua Chinon Canyon Results of Archaeological Data Recovery Excavations at CA-ORA-1070, -1298 and -1299, Foothill Transportation Corridor, Northern Segment, Construction Sections F8 and F9	1992	El Toro
OR-01312	Macko, Michael E. and Gary Hurd	Appendices To: Final Report Early Settlement in Agua Chinon Canyon Results of Archaeological Data Recovery Excavations at CA-ORA-1070, -1298 and -1299, Foothill Transportation Corridor Northern Segment, Construction Sections F8 and F9	1992	El Toro
OR-01317	Magalousis, Nicholas M.	Archaeological and Paleontological Observation of Grading at 9 Hillgate Irvine, California	1993	Tustin
OR-01318	Bissell, Ronald M.	Cultural Resources Reconnaissance of the Proposed Round Canyon Retarding Basin, Facility No. F16b03, Orange County, California	1993	El Toro
OR-01332	Rosenthal, Jane	An Archaeological Assessment of the Proposed University II Project, University of California, Irvine	1993	Tustin

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OR-01339	Demcak, Carol R. and Marie G. Cottrell	Report of Archaeological Investigations Performed in Association with the Upper Newport Bay Bike and Equestrian Trail	1985	Tustin
OR-01340	Quenette, Terry L. and Marie G. Cottrell	Archaeological Test Level Investigation of the 40 Foot Impact Zone Due to Proposed Widening of University Drive	1980	Tustin
OR-01350	McKenna, Jeanette A. and Philip De Barros	Archaeological Survey Report Historic Sites Addendum San Joaquin Hills Transportation Corridor 12-ORA-73 12-102540	1993	Laguna Beach, San Juan Capistrano, Tustin
OR-01351	McKenna, Jeanette A. and Philip De Barros	Historic Study Report San Joaquin Hills Transportation Corridor 12-ORA-73 12-102540	1993	Laguna Beach, San Juan Capistrano, Tustin
OR-01353	Weber, Carmen A.	Cultural Resources Survey for the Central Pool Augmentation and Water Quality Project	1992	El Toro
OR-01355	Cottrell, Marie G.	A Cultural Resources Assessment Conducted for the Extension of Project Site a Marine Corps Air Station (H) Tustin	1984	Tustin
OR-01357	White, Robert S. and Laura S. White	An Extended Literature and Records Search Addressing Prehistorical Archaeological Resources Located within the Boundaries of the US Marine Corps Air Station (MCAS), Tustin Orange County, California	1993	Tustin
OR-01371	Padon, Beth and Fran Govean	An Archaeological and Paleontological Assessment of the Proposed Planning Area 10 Project, City of Irvine, Orange County	1993	Tustin
OR-01380	Mason, Roger D.	Treatment Program for ORA-1358 in the Macarthur Segment, San Joaquin Hills Transportation Corridor Irvine, California Pursuant to 36 Cfr 800.11	1994	Tustin
OR-01394	Chace, Paul G.	A Cultural Resources Survey for the Northwood Point Planned Community (Northwood 5), County of Orange_Tentative Tract Map No. 14540	1994	El Toro, Tustin
OR-01396	Conkling, Steve	Cultural Resources Assessment - Warner Avenue Bridge over Peters Canyon Channel, Tustin, Orange County, California	1994	Tustin
OR-01402	Brock, James P.	Cultural Resources Assessment for the Irvine Desalter Project, Irvine, California	1994	El Toro, Tustin
OR-01404	Padon, Beth and Fran Govean	An Archaeological and Paleontological Resource Review of the Proposed Planning Area 8 Project, City of Irvine, Orange County, USGS Tustin 7.5' Quadrangle, 60 Acres	1994	Tustin
OR-01407	Brown, Joan C.	Cultural Reconnaissance for the Service Connection Enlargement of the Flow Control Facility St-04	1994	El Toro

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OR-01408	Demcak, Carol R.	Final Report of Test Level Investigation at ORA-758, Alton Parkway Extension Project, County of Orange, California	1994	El Toro
OR-01413	Whitney-Desautels, Nancy A. and David A. Kice	Cultural Resources Assessment of the Irvine Ranch Water District Alternate Aqueous Waste Disposal Facility Sites, Orange County, California	1993	El Toro, Tustin
OR-01417	Koerper, Henry C., Paul E. Langenwalter, Adella Schroth, Robert O. Gibson, Margaret Newman, Lisa Panet Klug, Virginia S. Klug, and Jonathon E. Ericson	The Christ College Project Archaeological Investigations at CA-ORA-378, Turtle Rock, Irvine, California	1995	Tustin
OR-01419	Strudwick, Ivan H. and Bradley Sturm	Cultural Resource Assessment - Planning Area 12, City of Irvine, Orange County, California	1994	Tustin
OR-01422	Padon, Beth	An Archaeological Assessment of a Portion of Planning Area 12, City of Irvine, USGS Tustin Quadrangle, 30 Acres	1994	Tustin
OR-01423	McLean, Deborah K.	Cultural Resources Assessment-Planning Area 10, City of Irvine Orange County, California	1994	Tustin
OR-01426	McLean, Deborah K.	Cultural Resources Assessment Hicks Canyon and East Hicks Canyon Retarding Basins Orange County Ema File No. LP.94-124	1994	El Toro
OR-01439	McCoy, Lesley C. and Phillips Roxana	National Register Assessment Program of Cultural Resources of the 230 Kv Transmission Line Rights-of-Way From San Onofre Nuclear Generating Station to Black Star Canyon and Santiago Substation and to Encina and Mission Valley Substation	1980	Black Star Canyon, Canada Gobernadora, El Toro, Laguna Beach, San Clemente, San Juan Capistrano, Tustin
OR-01448	Demcak, Carol	Cultural Resources Assessment for Reservoir Alternative 3, Sand Canyon Reservoir, Orange County, California	1996	Tustin
OR-01466	Rosenthal, Jane	Archaeological and Paleontological Monitoring of Preliminary Grading and Trenching for the Oak Creek Golf Course	1996	Tustin
OR-01476	Padon, Beth	Archaeological Monitoring of Preliminary Grading and Trenching for UCI/TIC University Research Park, Planning Area 25, Parcel 1 and 2 of Tentative Parcel Map No.94-160	1996	Tustin
OR-01481	Strudwick, Ivan H.	Results of Archaeological Testing in the Northeast Portion of CA-ORA-196/H for the Michelson Drive Bridge Widening, San Diego Creek, Irvine, California	1996	Tustin

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OR-01485		Archaeological Test Investigations at CA-ORA-1457/H Supplemental Report for the Eastern Transportation Corridor Orange County, California	1996	Orange
OR-01486		Archaeological Test Investigations at CA-ORA-1371-H and CA-ORA -1440 Supplemental Report for the Eastern Transportation Corridor of Orange County, California	1996	El Toro
OR-01488		Archaeological Test Investigations at CA-ORA-649, CA-ORA-1458, and CA-ORA-1459 Supplemental Report for the Eastern Transportation Corridor Orange County, California	1996	El Toro
OR-01490	McLean, Deborah K.	Cultural Resources Assessment for Newport Coast Drive Extension, Off-site Mitigation Areas, Orange County, CA.	1996	Laguna Beach, Tustin
OR-01502	McLean, Deborah K.	Cultural Resources Assessment - Newport Coast Drive Extension	1995	Laguna Beach, Tustin
OR-01507	Rosenthal, Jane	Archaeological and Paleontological Monitoring of Preliminary Grading for Irvine Spectrum 5, Phase 1a and 1c, Irvine, California	1995	El Toro
OR-01508	Jertberg, Patricia R.	Archaeological Monitoring Letter Report for Mini-u Storage Project, Warner Avenue at Jamboree Road, City of Tustin and City of Irvine	1996	Tustin
OR-01516	Padon, Beth	Archaeological and Paleontological Monitoring of Grading for the Lower Peters Canyon Bryan Avenue Cutoff Berm, Tentative Tract No. 1527, County Permit #GA960017	1996	Tustin
OR-01517	Padon, Beth	Archaeological Assessment Report: 16830 1/2 Sand Canyon Ave., Irvine	1996	Tustin
OR-01521	Conkling, Steven W., Brad Sturm and Diann Taylor	Cultural Resources Assessment, Planning Area 22, City of Irvine, Orange County, California	1995	Laguna Beach, Tustin
OR-01526	Demcak, Carol R.	Report of Archaeological Survey for L.A. Cellular Site #185, 17731 Cowan, Irvine, Orange County	1996	Tustin
OR-01530	McKenna, Jeanette A.	A Phase II Archaeological Testing Program for CA-ORA-178 and CA-ORA-382 and a Reconnaissance Survey for CA-ORA-344/349, All Located in the Sand Canyon Area of Irvine, Orange County, California	1996	Tustin
OR-01542	Demcak, Carol R.	Final Report of Archaeological Monitoring for L.A. Cellular Site #685.1, City of Irvine, Orange County, California	1997	Tustin
OR-01552	Padon, Beth	Archaeological and Paleontological Monitoring of Preliminary Grading for Irvine Spectrum 5, Phase 1a.2, Irvine	1997	El Toro

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OR-01555	Allen, Kathleen C. and Dibble, Stephen D.	Archaeological Salvage Investigations at CA-ORA-575, City of Irvine	1995	Tustin
OR-01557	Strudwick, Ivan H., Deborah McLean, William McCawley, Steve Conkling, and Brad Sturm	Test Level Investigations at CA-ORA-1371/H, East Hicks Canyon, Orange County, California	1995	El Toro
OR-01570	Padon, Beth and Fran Govean	An Archaeological and Paleontological Resource Review of the Proposed Planning Area 25 Project, City of Irvine, Orange County	1995	Tustin
OR-01576	Slawson, Dana N.	Cultural and Historical Resources Impact Analysis for the Proposed East Campus Student Recreation Center University of California, Irvine	1997	Tustin
OR-01577	Padon, Beth	Archaeological and Paleontological Monitoring of Preliminary Grading for Irvine Spectrum 6, Area B 1, 2, 3, Irvine, California	1997	Tustin
OR-01583	Nicoll, Gerald A.	Archaeology and Paleontology Report for Rancho De Los Alisos Area, Orange County, California	1974	El Toro
OR-01587	Demcak, Carol R.	Report of an Archaeological Assessment for Civic Center Park, City of Irvine, Orange County, California	1997	Tustin
OR-01591	Breece, Bill and Beth Padon	Archaeological and Paleontological Assessment of the Habitat Enhancement Project	1986	Tustin
OR-01592	Becker, Kenneth M.	Evaluation of the Cultural Resources of the Bee Canyon Retarding Basin, Orange County, California	1997	El Toro
OR-01610	Stickel, Gary E.	An Archaeological Site Survey of the Hellman Ranch, City of Seal Beach, California	1996	Los Alamitos, Seal Beach
OR-01614	Padon, Beth	Archaeological Monitoring of Preliminary Grading and Trenching for Uci/tic University Research Park, Planning Area 25, Parcels 3 and 4, and Portions of Parcels 6,7, and 8 of Tentative Parcel Map No. 94-160	1997	Tustin
OR-01615	Jertberg, Patricia R.	Archaeological Monitoring Report for the Northwood High School Grading Project, City of Irvine, Orange County, California	1997	El Toro, Tustin
OR-01617	Strudwick, Ivan H.	Extended Phase 1 Survey Report for the Proposed Laguna Canyon Road (SR-133) Improvement Project in Orange County, California	1997	Laguna Beach
OR-01619	Strudwick, Ivan H.	Historic Study Report for the Proposed Laguna Canyon Road (SR-133) Improvement Project in Orange County, California	1997	Laguna Beach, Tustin

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OR-01620	Strudwick, Ivan H.	Historic Property Survey Report for the Proposed Laguna Canyon Road (SR-133) Improvement Project in Orange County, California	1997	Laguna Beach, Tustin
OR-01621	Strudwick, Ivan H.	Archaeological Survey Report for the Proposed Laguna Canyon Road (SR-133) Improvement Project in Orange County, California	1997	Laguna Beach, Tustin
OR-01623	Drover, Christopher E.	Cultural Resources Impact and Constraints Assessment Project Area PA-27 Irvine, California	1997	Laguna Beach, Tustin
OR-01624	Govena, Fran	Archaeological and Paleontological Monitoring Results for PM97-114 Western Digital Site, Irvine, Orange County, California	1997	El Toro, Tustin
OR-01625	Conkling, Steven W. and Joan M. Medina	Results of Archaeological and Paleontological Monitoring of the Northwood 5 Development (Tentative Tract 14540), Lots 4 and 5, Irvine, California	1997	Tustin
OR-01627	Padon, Beth	Archaeological and Paleontological Monitoring for Irvine Entertainment Center, Irvine, California	1995	El Toro
OR-01628	Unknown	Cultural Resources Assessment- Warner Avenue Bridge Over Peters Canyon Channel, Tustin, Orange County, California	1994	Tustin
OR-01646	Bonner, Wayne H., Stephen J. Bouscaren, Larry Carbone, Robert O. Gibson, Lisa Klug, Roger D. Mason, Mark L. Peterson, and Virginia Popper	San Joaquin Hills Transportation Corridor: Results of Data Recovery at CA-ORA-689, CA-ORA-736, and CA-ORA-1029	1997	Laguna Beach
OR-01651	Mason, Roger D., Wayne H. Bonner, Stephen J. Bouscaren, Larry Carbone, Robert O. Gibson, Lisa Klug, Mark L. Peterson, and Virginia Popper	San Joaquin Transportation Corridor Results of Data Recovery at CA-ORA-206	1997	Tustin
OR-01662	McLean, Deborah K.	Archaeological Assessment for Pacific Bell Mobile Services Telecommunications Facility CM 002-29, 14451 Myford Road, City of Tustin, Orange County, CA.	1998	Tustin
OR-01663	McLean, Deborah K.	Cultural Resources Survey Report for Pacific Bell Mobile Services Telecommunications Facility, CM 334-32, in the City of Irvine, Orange County, CA.	1997	Tustin

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OR-01664	McLean, Deborah K.	Cultural Resources Survey Report for Pacific Bell Mobile Services Telecommunications Facility, Cm 007-38, in the City of Irvine, Orange County, CA.	1997	Tustin
OR-01668	Langston, Snyder	Archaeological and Paleontological Monitoring Results for the Candlewood-Irvine, Parcel 5 Project, City of Irvine, Orange County, CA.	1998	Tustin
OR-01686	Cottrell, Marie G.	A Walk Over Survey of Tentative Tract 9372 for the E.S.R. Corporation of Newport Beach	1976	Tustin
OR-01690	Padon, Beth	Archaeological Monitoring Report, University Research Park, Phase Iii, Irvine, California	1998	Tustin
OR-01692	Jertberg, Patricia R.	Archaeological Monitoring of Preliminary Grading for Irvine Spectrum 6, Area a Phase I, Irvine, California	1998	Tustin
OR-01693	Jertberg, Patricia R.	Archaeological Monitoring of Preliminary Grading and Trenching for Offsite Street, University Research Park, Phase III, Tentative Parcel Map No. 94-160	1998	Tustin
OR-01707	Padon, Beth	Archaeological Monitoring of Preliminary Grading for Irvine Technology Center, Phase 1, Lots 5-21, Tentative Tract 15522, Irvine, California	1998	Tustin
OR-01708	Hurd, Gary S. and Macko, Michael E.	Test Program Results, Significance Evaluations, and Recommendations for Mitigation of Impacts at CA-ORA-115a, -115b, -116, & -121b, University of California, Irvine, North Campus	1989	Tustin
OR-01711	Bissell, Ronald M.	Project Area 27 in Irvine, Orange County, California	1998	Laguna Beach, Tustin
OR-01714	Drover, Christopher E.	(Duplicate of OR-2065) A Cultural Resources Inventory for an 800 Acre Conceptual Lotting Plan in Planning Area 27, Irvine, California	1998	Laguna Beach, Tustin
OR-01717	Mason, Roger D. and Brechbiel, Brant A.	San Joaquin Hills Transportation Corridor Results of Construction Monitoring for Archaeological Resources Mitigation Monitoring Measures 11-1	1997	Laguna Beach, San Juan Capistrano, Tustin
OR-01731	Unknown	Index to the Artifacts Collected During the Second Part of the WPA Project	1961	Laguna Beach, Tustin
OR-01734	Unknown	Preliminary Draft: Environmental Impact Report for the San Joaquin Reservoir Improvement Program	1989	Laguna Beach, Orange, Tustin
OR-01754	Brechbiel, Brant A.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 237-91 in the City of Irvine, California	1998	El Toro

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OR-01759	Demcak, Carol R.	Report of Archaeological Assessment for Proposed Orchard Estates Retarding Basin, Orange County, California	1997	El Toro
OR-01784	Brechbiel, Brant A.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 092-26 in the City of Irvine, California	1998	Tustin
OR-01785	Brechbiel, Brant A.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 005-15 in the City of Irvine, California	1998	Tustin
OR-01786	Brechbiel, Brant A.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 052-12 in the City of Irvine, California	1998	Tustin
OR-01787	Brechbiel, Brant A.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 247-12 in the City of Irvine, California	1998	Tustin
OR-01788	Brechbiel, Brant A.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 202-03 in the City of Irvine, California	1998	Tustin
OR-01812	Brechbiel, Brant A.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 305-03 in the City of Irvine, California	1998	Tustin
OR-01814	Padon, Beth	Archaeological Monitoring Report for One Park Place, Orange County	1994	Tustin
OR-01815	McKenna, Jeanette A.	Historic Property Survey Report: Negative Findings Alton Avenue/State Route 55 Improvements, Cities of Santa Ana and Irvine, Orange County, California	1995	Tustin
OR-01828	Chace, Paul G.	A Cultural/scientific Resources Survey for the Irvine Planning Area 26, Bonita Canyon- Coyote Canyon, Zone Change 18903-ZC, in the City of Irvine, Orange County, California	1995	Laguna Beach, Tustin
OR-01832	Brechbiel, Brant A.	Cultural Resources Survey Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 237-09 in the City of Irvine, California	1997	El Toro
OR-01839	Padon, Beth	Assessment of Prehistoric Resources Aqua Chinon Retarding Basin, Orange County, California	1995	El Toro

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OR-01841	Cottrell, Marie G. and Murray, John	Archaeological Resources Assessment Completed for the Marine Corps Air Station, El Toro, California	1987	El Toro
OR-01844	Webb, Lois M.	Request for Finding of Effect for the Proposed Eastern Transportation Corridor	1991	Black Star Canyon, El Toro, Orange, Tustin
OR-01881	Padon, Beth	Historic Property Survey Report Proposed Yale Avenue/I-5 Overcrossing Irvine, California	1983	Tustin
OR-01883	Getchell, Barbie Stevenson and John E. Atwood	Cultural Resources Survey of a 46 Acre Portion of the San Joaquin Freshwater Marsh Reserve, Irvine, Orange County, California	1998	Tustin
OR-01902		Historic Property Survey 07ORA-133	1985	Tustin
OR-01909	Padon, Beth	Paleontological Monitoring for EH & S Building on University of California, Irvine Campus	1998	Tustin
OR-01916	Strudwick, Ivan H.	Results of Archaeological Testing at Site CA-ORA-121, Locus C, Near Upper Newport Bay Orange County, California	1998	Tustin
OR-01917	Strudwick, Ivan H.	Results of Archaeological Testing of a Portion of CA-ORA-1238/H Within the Portola Parkway Extension Project, Orange County, California	1999	Tustin
OR-01920	Grenda, Donn R., Christopher J. Doolittle, and Jeffrey H. Altschul	House Pits and Middens	1998	Tustin
OR-01937	Anonymous	Historic Property Survey Laguna Canyon Road Orange County, California	1985	Laguna Beach, Tustin
OR-01939	Padon, Beth	Archaeological and Paleontological Monitoring of Preliminary Grading for Market Place III Retail Center, Irvine, California	1999	Tustin
OR-01941	Padon, Beth	Archaeological and Paleontological Monitoring of Preliminary Grading for Jack-in-the-box Restaurant 3278, Permit No.34126 CCG, Irvine, California	1999	Tustin
OR-01942	Padon, Beth	Archaeological Resource Archival Review and Monitoring for the Lake Shore Towers Project	1999	Tustin
OR-01943	Duke, Curt and McLean, Deborah K.B.	Results of Archaeological Monitoring for the San Joaquin Marsh Enhancement Plan Project, City of Irvine, Orange County, California	1998	Tustin
OR-01944	Unknown	Draft Environmental Impact Report East Irvine Historical Site, Irvine, California	1984	Tustin
OR-01945	Padon, Beth	Archaeological Testing Report for CA-ORA-1041, University Research Park, Phase 10, Irvine, California	1999	Tustin

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OR-01963	Padon, Beth	Archaeological and Paleontological Monitoring of Preliminary Grading for Irvine Technology Center, Phase 2, Lots 15-26, Tentative Tract 15522, Irvine, California	1999	Tustin
OR-01973	Duke, Curt	Cultural Resource Assessment for Pacific Bell Mobile Services Facility CM 485-01, in the County of Orange, California	1999	Tustin
OR-01986	Duke, Curt	Cultural Resource Assessment for Pacific Bell Mobile Services Facility CM 485-02, County of Orange, California	1999	Tustin
OR-01998	Jertberg, Patricia R.	Historic Property Survey for Irvine Boulevard in the County of Orange	1981	El Toro, Tustin
OR-02004	Anonymous	Environmental Analysis of Hazardous Waste Disposal and Underground Tanks Cultural Resources Real Estate Exchange Between Marine Corps Air Station (MCAS), Tustin and Orange County, California	1991	Tustin
OR-02013	Wlodarski, Robert J.	Negative Archaeological Survey Report on the Construction of a Transitway in the Median of Interstate 405	1990	Tustin
OR-02022	Mason, Roger D.	Test Plan for National Register Evaluation of Archaeological Sites on the Coyote Canyon Sanitary Landfill Property, Orange County, California	1987	Laguna Beach, Tustin
OR-02023	Drover, Christopher E.	A Cultural Resources Inventory for Harvard Square Irvine, California	1999	Tustin
OR-02027	Drover, Christopher E.	A Cultural Resources Inventory of Planning Area 17, Irvine, California	1998	Tustin
OR-02058	Padon, Beth	Paleontological and Archaeological Monitoring for University Research Park, Phase 10, Parcel a and Bison Avenue Landscape Area	2000	Tustin
OR-02059	Duke, Curt	Cultural Resource Assessment for Pacific Bell Mobile Services Facility CM 383-01, County of Orange, California	1999	Tustin
OR-02061	Lapin, Philippe	Cultural Resource Assessment for Pacific Bell Wireless Facility CM 441-01, County of Orange, California	2000	Tustin
OR-02062	Duke, Curt	Cultural Resource Assessment for Pacific Bell Mobile Services Facility CM 152-09, in the City of Irvine County of Orange, California	2000	Tustin
OR-02063	Padon, Beth	Paleontological and Archaeological Monitoring for California Avenue Sewer Line, Bison Avenue Water Line, and I-25/University Slope Repair Projects, University Research Park, Phase III and IV	1999	Tustin

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OR-02064	Lapin, Philippe	Cultural Resource Assessment for Modifications to Pacific Bell Mobile Services Facility CM 052-12, County of Orange, California	2000	Tustin
OR-02065	Drover, Christopher E.	A Cultural Resources Inventory for an 800 Acre Conceptual Lotting Plan in Planning Area 27, Irvine, California	1998	Laguna Beach, Tustin
OR-02106	Huey, Gene	Supplemental Historic Property Survey Report for Siphon Ridge Revegetation Area, Orange County	1994	El Toro
OR-02108	Unknown	Historic Property Survey Report for the Proposed Eastern Transportation Corridor, Orange County	1991	Black Star Canyon, El Toro, Orange, Tustin
OR-02109	Duke, Curt	Updated Cultural Resource Assessment for Pacific Bell Wireless Facility CM 237-09, County of Orange	2000	El Toro
OR-02145	Duke, Curt	Cultural Resource Assessment for Pacific Bell Mobile Services Facility CM 494-03, County of Orange	2000	Orange
OR-02171	Getchell, Barbie	Archaeological Monitoring of the San Joaquin Reserve Enhancement Project in Irvine, Orange County	1999	Tustin
OR-02172	Duke, Curt	Cultural Resource Assessment for Pacific Bell Wireless Facility CM 338-02, County of Orange	2000	Tustin
OR-02173	Lapin, Philippe	Cultural Resource Assessment for Pacific Bell Wireless Facility CM 514-02, County of Orange	2000	Tustin
OR-02174	Duke, Curt	Cultural Resource Assessment for Pacific Bell Wireless Facility CM 338-01, County of Orange	2000	Tustin
OR-02175	Duke, Curt	Cultural Resource Assessment for At&t Wireless Services Facility Number C940.1, County of Orange	2000	Tustin
OR-02176	Lapin, Philippe	Cultural Resource Assessment for Pacific Bell Wireless Facility CM 416-01, County of Orange	2000	Tustin
OR-02184	Lapin, Philippe	Cultural Resource Assessment for Pacific Bell Wireless Facility CM 030-02, County of Orange	2000	El Toro, Tustin
OR-02225	Strozier, Hardy	The Irvine Company Planning Process and California Archaeology- A Review and Critique	1978	Black Star Canyon, El Toro, Laguna Beach, Orange, San Juan Capistrano, Tustin
OR-02235	Duke, Curt	Revised Cultural Resource Assessment for At&t Wireless Services Facility Number C940.1, County of Orange, CA	2000	Tustin
OR-02236	Duke, Curt	Cultural Resource Assessment for AT&T Fixed Wireless Services Facility Number OC_240_A, County of Orange, CA	2001	Tustin

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OR-02240	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 013-01 Orange County, California	2001	Tustin
OR-02241	Duke, Curt	Cultural Resource Assessment for Modifications to Cingular Wireless Facility Sc 016-01, County of Orange, CA	2001	Tustin
OR-02242	Duke, Curt	Cultural Resource Assessment for At&t Wireless Services Facility Number C956.1, County of Orange, CA	2000	Tustin
OR-02243	Cottrell, Marie, G.	A Proposal for the Archaeological Investigation of CA-ORA-350 and CA-ORA-379	1977	Tustin
OR-02244	Brown, Joan C.	Negative Archaeological Survey Report-DFD-EP-25 (rev.2/83)	2000	Tustin
OR-02247	Alcock, Gwyn	Cultural Resources Investigation for the Nextlink Fiberoptic Project, Los Angeles and Orange Counties, California (first Addendum); Nextlink Project Number: 17033-2	2000	Venice
OR-02249	Schilz, Allan J.	Archaeological Survey Conducted for Village 10 City of Irvine	1978	Tustin
OR-02250	Padon, Beth	Archaeological and Paleontological Monitoring of Preliminary Grading for Ei Camino Real, Mini Storage, Lot 1, Tract 15661 Irvine, California	2000	Tustin
OR-02251	Padon, Beth	Archaeological and Paleontological Monitoring Scope of Work for Planning Area 10, Parcel 8, 9 and 10 Project	2000	Tustin
OR-02252	Robbins, Susan	Michelson Water Reclamation Plant Riparian Way and Duck Club Road Improvements	2000	Tustin
OR-02256	Demcak, Carol R.	Cultural Resources Assessments for Orange County Sanitation Districts	1999	Orange, Tustin
OR-02261	Brown, Joan C.	Historic Property Survey Report for I-405/Jeffery Road Trail Overcrossing Project	2000	Tustin
OR-02267	Hunt, Kevin P.	An Archaeological and Paleontological Survey of the Irvine Spectrum GPA Project	2000	El Toro, Tustin
OR-02282	Lapin, Philippe and Strudwick, Ivan	Results of Archaeological Monitoring at Sheridan Place Project, Tracts 15711 and 15712, City of Irvine, Orange County, CA	2000	Orange, Tustin
OR-02301	Avina, Mike	Monitoring Report for XO California Builds-1920 Maple Ave, El Segundo, California, and 4000 MacArthur Blvd., Newport Beach, California	2001	Tustin, Venice
OR-02330	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 009-02 Orange County, California	2001	El Toro

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OR-02332	Duke, Curt	Cultural Resource Assessment for Modifications to Cingular Wireless Facility CM 440-03, County of Orange, California	2001	El Toro
OR-02336	Demcak, Carol R.	Final Report on Archaeological and Paleontological Monitoring Program Conducted at Spectrum 5, Irvine, Orange County, California	2000	El Toro
OR-02337	Demcak, Carol and Milos Velechovsky	Final Report on Archaeological and Paleontological Monitoring Program Conducted at Spectrum 6, City of Irvine, Orange County, California	2000	El Toro
OR-02338	Demcak, Carol R. and Milos Velechovsky	Final Report on Archaeological and Paleontological Monitoring Program Conducted at the University Hills Project Site and University House, University of California, Irvine	2001	Tustin
OR-02341	McKenna, Jeanette A.	A Phase I Cultural Resources Investigation for the Lakeside Construction Property on Dow Avenue, Tustin, Orange County, California	2000	Tustin
OR-02342	Bissell, Ronald M.	Peer Review of "A Phase I Cultural Resources Inventory for Planning Area 9, Irvine, California," Dated 12 April 2001.	2001	Tustin
OR-02343	Bissell, Ronald M.	Peer Review of " a Phase I Cultural Resources Inventory for Planning Area 6, Irvine California"	2001	Tustin
OR-02345	Bissell, Ronald M.	Peer Review of a Phase I Cultural Resources Inventory for Planning Area 8A, Irvine California	2001	Tustin
OR-02347	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 005-01 Orange County, California	2001	Tustin
OR-02349	Cottrell, Marie G.	Archaeological Survey of Irvine Ranch Water District Pipeline Route EA No. 176009, Warner Avenue Water Main	1977	Tustin
OR-02350	Crabtree, Robert H.	Conclusion of Archaeological Investigations on a Portion of 105 Acres Located East of Jamboree Road, South of San Diego Freeway	1974	Tustin
OR-02351	Mabry, Theo	Test Level Investigation Conducted at CA-ORA-228, Turtle Rock, Irvine, California	1978	Tustin
OR-02352	Unknown	Records Search and Reconnaissance Harvard Avenue Extension City of Irvine, California	1979	Tustin
OR-02445	Duke, Curt	Cultural Resource Assessment AT&T Wireless Services Facility No.13353A Orange County, California	2002	Tustin
OR-02447	Duke, Curt	Cultural Resource Assessment AT&T Wireless Services Facility No. 13103B Orange County, California	2002	Tustin

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OR-02448	Strudwick, Ivan H.	Results of Archaeological Testing at Site CA-ORA-121, Locus C, Near Upper Newport Bay Orange County, California	1999	Tustin
OR-02462	Duke, Curt	Cultural Resource Assessment AT&T Wireless Services Facility No. C939.4 Orange County, California	2002	Tustin
OR-02464	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 065-02 Orange County, California	2002	Tustin
OR-02465	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 051-03 Orange County, California	2002	Tustin
OR-02468	Duke, Curt	Cultural Resource Assessment AT&T Wireless Services Facility No. 13086A Orange County, California	2002	Tustin
OR-02469	Duke, Curt	Cultural Resource Assessment AT&T Wireless Services Facility No. 13099a Orange County, California	2002	Tustin
OR-02470	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 036-02 Orange County, California	2002	Tustin
OR-02471	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. CM 299-05 Orange County, California	2001	Tustin
OR-02474	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 024-03 Orange County, California	2001	Tustin
OR-02477	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 047-01 Orange County, California	2001	Tustin
OR-02478	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 062-01 Orange County, California	2001	Tustin
OR-02480	Crownover, Scott, Beth Padon, and Jane Rosenthal	Archaeological Investigations at CA-ORA-121 Orange County, California	1990	Tustin
OR-02484	Velechovsky, Milos and Carol R. Demcak	Final Report on Archaeological and Paleontological Monitoring Program Conducted at Spectrum 6, Marshburn Wash, City of Irvine, Orange County, California	2001	Tustin
OR-02485	Chakurian, Anthony	Site Id Number C940_jamboree/Alton, Proposed AT&T Wireless Telecommunications Equipment Installation 17052 Jamboree Road, Irvine, California 92614	2001	Tustin
OR-02487	Archer, Gavin H.	Cultural Resource Inventory Quail Hill (PA17) Irvine Ranch Water District Facilities Reservoir Zone 3 and Reservoir Zone 4 City of Irvine, County of Orange, California	2002	Tustin

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OR-02488	Bonner, Wayne H.	Records Search Results for Sprint Pcs Facility OG54XC451D, Located at 5595 1/2 Walnut Street, Irvine in Orange County, California	2001	Tustin
OR-02489	Padon, Beth	Archaeological and Paleontological Surveying and Monitoring of the Mini-U-storage Warner-Jamboree Project	2002	Tustin
OR-02490	Love, Bruce	The Proposed Undertaking Consists of Landscaping in a Portion of the Existing Median of Portola Parkway Near the Intersection of SR 261, in the City of Irvine, Orange County	2002	Tustin
OR-02491	McKenna, Jeanette A.	Review of Cultural Resource Assessment/evaluation for Cingular Wireless Site CM-152-01 Orange County, California	2001	Tustin
OR-02492	Bolin, David P.	Proposed AT&T Wireless Telecommunications Equipment Installation 2525 Dupont Drive, Irvine, California 92612	2001	Tustin
OR-02493	Billat, Lorna	Nextel Communications Wireless Telecommunications Service Facility-Orange County	2000	Tustin
OR-02494	Thane, Michael D.	Proposed Sheraton Rooftop Site 4701 Von Karman Avenue Newport Beach, Orange County, California	2001	Tustin
OR-02496	Unknown	Archaeological Salvage Program at Locus B and the Peripheral Sector of Locus A, ORA-121 (287) Irvine, California	1979	Tustin
OR-02497	Brown, Joan C.	The Proposed Jeffrey Road/OTCA Metrolink Railway Grade Separation: 1/2 Mile South of Walnut Ave. Within the City of Irvine, County of Orange, California	2001	Tustin
OR-02499	Love, Bruce	The Proposed Undertaking Involves the Construction of a Drainage Swale Along the Southeast Shoulder of State Route 261, Near the Intersection of SR 261 and Portola Parkway, in the City of Irvine, California	2001	Tustin
OR-02518	Bissell, Ronald M.	Peer Review of "A Phase I Cultural Resources Inventory for Planning Area 5b, Irvine, California", Dated 20 March 2001. Author, Christopher Drover, Ph.D. Prepared by The Keith Companies, Incorporated for the Irvine Community Development Company	2001	El Toro, Tustin
OR-02523	N/A	DUPLICATE OF OR2699: Cultural Resource Assessment for Modifications to Cingular Wireless Facility CM 437-01, County of Orange, California		N/A

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OR-02532	Duke, Curt	Cultural Resource Assessment AT&T Wireless Facility No. 13104A, Orange County, California	2002	El Toro
OR-02533	Webb, Lois M. and Gene Huey	07-ORA-405 PM7.4 Overcrossing, Historic Property Survey, 07210-249011	1977	Tustin
OR-02534	N/A	Annual Report to The Irvine Company from Archaeological Research, Inc.	1976	Black Star Canyon, El Toro, Laguna Beach, Orange, San Juan Capistrano, Tustin
OR-02596	Demcak, Carol R.	Archaeological Investigations at CA-ORA-554, San Joaquin Hills, Orange County, California	1989	Tustin
OR-02597	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 113-02 Orange County, California	2002	Tustin
OR-02598	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. CM 498-02	2002	Tustin
OR-02599	Cottrell, Marie G.	Report of Grading Activities, CA-ORA-111	1976	Tustin
OR-02600	Cottrell, Marie G.	Archaeological Research, Inc. Quarterly Report	1975	El Toro, Laguna Beach, Tustin
OR-02601	Cottrell, Marie G.	Archaeological Testing Proposal of Site ORA-575, City of Irvine	1975	Tustin
OR-02610	York, Andrew L.	Testing Plan Archaeological Site Evaluation and National Register Eligibility Evaluation at Site CA-ORA-1462 MCAS El Toro, Orange County, California	1998	El Toro
OR-02611	Underwood, Jackson and York, Andrew	Archaeological Testing and Evaluation at Site CA-ORA-1462 MCAS, El Toro, Orange County, California	1999	El Toro
OR-02626	Younger, Shannon and Smith, Brooks	Results of Archaeological Construction Monitoring Planning Area 27 Needlegrass Creek Conservation Area, Irvine, California	2003	El Toro, San Juan Capistrano
OR-02627	Archer, Gavin H.	Archaeological Data Recovery at CA-ORA-495 a Prehistoric Site in the Northern San Joaquin Hills City of Irvine, County of Orange, California	2003	Tustin
OR-02628	Mason, Roger D.	Cultural Resources Records Search and Field Survey Report for a Verizon Telecommunications Facility: Meadowood in the City of Irvine, Orange County, California	2001	Tustin
OR-02635	Strudwick, Ivan H.	Supplemental Historic Property Survey Report for the Laguna Canyon Road (SR-133) Improvement Project in Orange County, California	2002	Laguna Beach, Tustin
OR-02636	Brown, Joan C.	A Cultural Resources Literature Study and Field Reconnaissance for the Natural Treatment System Master Plan Facilities, Orange County, California	2003	El Toro, Orange, Tustin

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OR-02637	Drover, Christopher E.	A Phase II Test Evaluation of Twenty Archaeological Sites in Shady Canyon, Irvine, California	1999	Laguna Beach, Tustin
OR-02638	Younger, Shannon and Smith, Brooks	Results of Archaeological and Paleontological Monitoring Turtle Ridge (Planning Area 27) Habitat Mitigation Project Bommer Canyon, City of Irvine Orange County, California	2003	Laguna Beach, Tustin
OR-02639	Drover, Christopher E.	A Cultural Resources Inventory in Planning Area 18 Irvine, California	1999	El Toro, Laguna Beach, San Juan Capistrano, Tustin
OR-02649	Allen, Rebecca	Archeological Survey Report Marine Corps Air Station, El Toro	1997	El Toro
OR-02651	Felix, William	Section 106 Review of a Mountain Union Telecom Telecommunications Project 592-1E049 Planned at 13826 Sand Canyon, Irvine, California	2001	El Toro
OR-02654	Duke, Curt	Cultural Resource Assessment for Pacific Bell Mobile Services Facility CM 440-01, County of Orange, California	2000	El Toro
OR-02657	Duke, Curt	Cultural Resource Assessment AT&T Wireless Services Facility No. 13103A Orange County, California	2000	Tustin
OR-02661	Duke, Curt	Cultural Resource Assessment AT&T Wireless Services Facility No. D396.2 Orange County, California	2002	El Toro
OR-02666	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 009-01 Orange County, California	2001	El Toro
OR-02668	Wallock, Nicole	Cultural Resource Assessment Cingular Wireless Facility No. SC 044-01 Orange County, California	2001	El Toro
OR-02669	Duke, Curt	Cultural Resources Assessment Cingular Wireless, Facility No. SC 053-01 Orange County, California	2001	El Toro
OR-02670	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 119-04 Orange County, California	2002	El Toro
OR-02671	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 136-01 Orange County, California	2002	Tustin
OR-02672	Duke, Curt	Revised Cultural Resource Assessment Cingular Wireless Facility No. CM 005-15 Orange County, California	2002	Tustin
OR-02673	Brechbiel, Brant A.	Cultural Resources Records Search and Survey Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 005-15 in the City of Irvine, California	1998	Tustin
OR-02674	Duke, Curt	Cultural Resource Assessment for AT&T Fixed Wireless Services Facility Number OC_240_A, County of Orange, California	2001	Tustin

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OR-02679	Bonner, Wayne H.	Cultural Resource Assessment for SC-090-02, Shepard of Peace Lutheran Church 18182 Culver Drive Irvine, CA. 92612	2002	Tustin
OR-02680	Padon, Beth and Stewart, J.E.	Archaeological and Paleontological Resources Monitoring Report for the Anteater Recreation Center Playing Fields, University of California, Irvine	2002	Tustin
OR-02681	Duke, Curt	Cultural Resource Assessment AT&T Wireless Services Facility No. 13085A Orange County, California	2002	Tustin
OR-02699	Duke, Curt	Cultural Resource Assessment for Modifications to Cingular Wireless Facility Cm 437-01, County of Orange, California	2001	El Toro
OR-02845	Drover, Christopher E.	A Phase I Cultural Resources Inventory for Planning Area 9 Irvine, California	2001	El Toro, Tustin
OR-02879	Tang, Bai "Tom" and Michael Hogan	Archaeological Survey Report Rockfield Boulevard/Oldfield Signalization Project City of Irvine, Orange County 12-ORA-0-irv (Rockfield)	2003	El Toro
OR-02882	Dice, Michael and Christeen Taniguchi	Final Phase 2 Archaeological Testing Evaluation of Irvine Ranch Cultural Resources: Santiago Hill II Planned Community (SHIIPC)-Tract Maps Nos. 16199 and 16201 and the East Orange Planned Community (EOPC) Area I-Tract Map No. 16514	2004	Black Star Canyon, Orange
OR-02928	Demcak, Carol R.	Final Report of Salvage Level Investigations at ORA-758, Alton Parkway Extension Project, County of Orange, California	1994	El Toro
OR-02934	Bonner, Wayne H.	Cultural Resource Records Search Results and Site Visit for AT&T Site Candidate 950-013-523E (Mason) 3 Mason, Irvine, Orange County, California	2005	El Toro
OR-02936	Archer, Gavin H.	Archaeological and Paleontological Monitoring Planning Area 6, Phase 1 Residential 12KV and Telephone Underground Improvements Portola Parkway (SR-133 to STA 151+00) Proposed Assessment District 04-20 and Tentative Tract 16562	2005	El Toro
OR-02938	Drover, Christopher E., Koerper, Henry C., and Lambert, Craig	A Cultural Resources Inventory for Planning Area 6, Irvine, California With Appendices	2001	El Toro
OR-02939	Kyle, Carolyn E.	Cultural Resource Assessment for a Cellular Tower Site Located at the Irvine Transportation Center City of Irvine, Orange County, California	2002	El Toro

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OR-02940	Kyle, Carolyn E.	Cultural Resource Assessment for a Cellular Tower Site Located at 4883 Portola Parkway City of Irvine Orange County, California	2002	El Toro
OR-02943	Kyle, Carolyn E.	Cultural Resource Assessment for AT&T Wireless Facility 950-013-523D 10 Thomas Avenue City of Irvine, Orange County, California	2004	El Toro
OR-02944	Kyle, Carolyn E.	Cultural Resource Assessment for AT&T Wireless Facility 950-013-106B 7601 Irvine Boulevard City of Irvine Orange County, California	2004	El Toro
OR-02946	Smith, Brooks R.	Results of Archaeological Resource Mitigation Monitoring Fire Station 55, Irvine Orange County, California	2004	El Toro
OR-02947	Smith, David M. and Christopher E. Drover	A Phase II Test for Eligibility Lambert Reservoir Irvine, California	2001	El Toro
OR-02948	Harper, Caprice D.	Cultural Resource Assessment Cingular Wireless Facility No. SC 188-02 Irvine, Orange County, California	2003	El Toro
OR-02949	Harper, Caprice D.	Cultural Resource Assessment Cingular Wireless Facility No. SC 188-91 Irvine, Orange County, California	2003	El Toro
OR-02950	Harper, Caprice (Kip) D. and Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. CM 307-01 County of Orange, California	2003	El Toro
OR-02961	Schmidt, James J.	Santiago-crown-morro 66 KV Transmission Line in the Shady Canyon Area, Orange County.	2004	Laguna Beach
OR-02969	Strudwick, Ivan H.	The Use of Fired Clay Daub From CA-ORA-269 in the Identification of Prehistoric Dwelling Construction Methods	2004	Laguna Beach
OR-02970	Strudwick, Ivan H.	Daub: the Archaeological Value of Fired Clay at CA-ORA-269 in the San Joaquin Hills of Coastal Southern California	2004	Laguna Beach
OR-02976	Smith, Brooks R.	Results of Archaeological and Paleontological Monitoring Upper Bommer Trail Emergency Access Road Improvements and Habitat Restoration Area Bommer Canyon, City of Irvine Orange County, California	2003	Laguna Beach
OR-03051	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for Cingular Wireless Candidate Oc-0144-01 (Look Out) 8504 1/2 Portola Parkway, Irvine, Orange County, California	2006	El Toro
OR-03053	Walker, James	AT&T Wireless Facility C533-El Toro, 7542 Irvine Blvd., Irvine	2002	El Toro

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OR-03054	Bonner, Wayne H.	Records Search Results for Sprint Pcs Facility Og54xc428a (the Research Center Site), Located At7601 Irvine Boulevard, Irvine in Orange County, California	2001	El Toro
OR-03056	Willey, Lorraine M.	Mcas El Toro Monitoring Wells Survey	2003	El Toro
OR-03057	Commendador-Dudgeon, Amy and Padon, Beth	Report on Phase 1 Archaeological Archival Review and Project Assessment for the Koll Center Ii Project in the City of Irvine	2006	El Toro
OR-03058	Grenda, Donn R., Ciolek-Torrello, Richard, Vargas, Benjamin R., and Gavin Archer	Archaeological Evaluation Plan Tomato Springs Site (CA-ORA-244) Planning Area 6, Irvine, California	2003	El Toro
OR-03060	Whitley, David S. and Joseph M. Simon	Documentation and Analysis of the Rock Art at CA-ORA-269, Irvine, Orange County, California	2004	Laguna Beach
OR-03176	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for Sprint Facility Candidate OG54xC582D (UCI-student Housing), 6530 California Avenue, Irvine, Orange County, California	2005	Tustin
OR-03177	Bonner, Wayne H.	Cultural Resource Records Search and Site Visit Results for Cingular Telecommunications Facility Candidate CM-514-01 (OC-034-01) Reynolds, 1562 Reynolds Avenue, Irvine, Orange County, California	2005	Tustin
OR-03178	Bonner, Wayne H.	Cultural Resources Records Search Results and Site Visit for Cingular Wireless Candidate OC-034-01 (Reynolds) 1562 Reynolds Avenue, Irvine, Orange County, California	2005	Tustin
OR-03180	Kyle, Carolyn E.	Cultural Resource Assessment for At&t Wireless Facility 950-013-092E 5380 1/2 University Drive City of Irvine Orange County, California	2004	Tustin
OR-03181	Kyle, Carolyn E.	Cultural Resource Assessment for Cingular Wireless Facility SC099-03 City of Irvine Orange County, California	2002	Tustin
OR-03182	Kyle, Carolyn E.	Cultural Resource Assessment for Cingular Wireless Facility SC083-03 City of Irvine Orange County, California	2002	Tustin
OR-03183	Kyle, Carolyn E.	Cultural Resource Assessment for Cingular Wireless Facility SC082-03 City of Irvine Orange County, California	2002	Tustin

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OR-03186	Bonner, Wayne H.	Records Search Results and Site Visit for Cingular Wireless Facility Candidate SC-470-01 (St. Pauls) 4949 Alton Parkway, Irvine, Orange County, California	2004	Tustin
OR-03190	Bonner, Wayne H.	Records Search Results for Cingular Wireless Site SC-117-01 (Turtle Rock Point Hoa), Ridgeline Drive/La Quinta, Irvine, Orange County, California	2002	Tustin
OR-03192	Bonner, Wayne H.	Records Search Results for Cingular Wireless Site SC-114-02 (Turtle Rock Glen Pool), 61 Sycamore Creek, Irvine, Orange County, California	2002	Tustin
OR-03194	Bonner, Wayne H.	Cultural Resource Records Search and Site Visit Results for Cingular Telecommunications Facility Candidate SC-024-01 (OC-041-01) Usa Gas Station, 4601 Campus Drive, Irvine, Orange County, California	2005	Tustin
OR-03195	Wlodarski, Robert J.	Records Search Results for the Proposed Mountain Union Telecom University Cell Site (PO/Ref# SFC 4002), Located at 5380 University Drive, City of Irvine, County of Orange, California	2004	Tustin
OR-03196	Padon, Beth	Archaeological and Paleontological Monitoring of Grading for the Trailer Pad and Proposed Stockpile, Permit No. 00359209RG, Irvine, California	2004	Tustin
OR-03197	Bonner, Wayne H.	Cultural Resource Survey and Revised Records Search Results for Sprint Telecommunications Facility Candidate OG60xc606a (Irvine Valley College Tower #M-1;T-2), Near Jeffrey Road and Irvine Center Drive, Irvine, Orange County, California	2003	Tustin
OR-03198	Bonner, Wayne H.	Cultural Resources Records Search Results and Site Visit for Cingular Wireless Candidate OC-0053-02 (Performance Equipment) 1902 Mcgaw, Avenue, Irvine, Orange County, California	2005	Tustin
OR-03199	Bonner, Wayne H.	Cultural Resources Records Search Results and Site Visit for Cingular Wireless Candidate Lsanca3055f (Concordia University) 1530 Concordia, Irvine, Orange County, California	2005	Tustin
OR-03200	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for Cingular Wireless Candidate Lsancat016 (construction Circle) 16291 Construction Circle. Irvine, Orange County, California	2006	Tustin

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OR-03202	Commendador-Dudgeon, Amy	Archaeological and Paleontological Monitoring at the Business, Education and Technology Center at Concordia University, in the City of Irvine	2006	Tustin
OR-03203	Bonner, Wayne H.	Cultural Resource Records Search and Site Visit Results for Cingular Telecommunications Facility Candidate Cm-092-01 (OC-005-01) Schiffman Enterprises, 17462 Von Karman Avenue Irvine, Orange County, California	2005	Tustin
OR-03204	Padon, Beth	Archaeological and Paleontological Monitoring at the Campus Center Multi-family Apartments Expansion, Building C, in the City of Irvine	2006	Tustin
OR-03205	Bonner, Wayne H.	Cultural Resources Records Search Results and Site Visit for T-mobile Candidate La02854 (AKI Nursery) 6900 Alton Parkway, Irvine, Orange County, California	2005	Tustin
OR-03207	Kyle, Carolyn E.	Cultural Resource Assessment for AT&T Wireless Facility 950-013-353B Located on Laguna Canyon Road, City of Irvine Orange County, California	2004	Tustin
OR-03229	Hatheway, Roger G.	A Cultural Resource Management (CRM) Report for the Irvine Valencia Growers Packing House Including a Phase II Evaluation and an Alternatives Analysis Outline and Mitigation Plan Outline	2002	Tustin
OR-03233	Scott, Kim and Brodie, Julie Scrivner	Cultural Resources Monitoring Report for the Moffett Meadows Project City of Irvine, California	2005	Tustin
OR-03235	Smallwood, Josh	Realignment and Widening of a Segment of Culver Drive Between Campuse Drive Amd Shady Canyon Drive (formerly Bonita Canyon Drive) in the Southwestern Portion of the City of Irvine, Orange County, California	2002	Tustin
OR-03236	Drover, Christopher E. and Smith, David M.	Archaeological Testing and Evaluation of CA-ORA-499 Planning Area 17, Irvine, California	2001	Tustin
OR-03237	Drover, Christopher E. and Smith, David M.	A Cultural Resources Inventory of Planning Area 17 Irvine, California	2000	Tustin
OR-03238	Drover, Christopher E.	Archaeological Research Design for Testing and Evaluation of CA-ORA-161, CA-ORA-1526, and CA-ORA-1527 Planning Area 17 Irvine, California	2001	Tustin
OR-03239	Drover, Christopher E., Smith, David M., Bell, Catherine G, and Lambert, Craig E.	Archaeological Test and Evaluation CA-ORA-161, CA-ORA-1526, and CA-ORA-1527, Planning Area 17, City of Irvine, Orange County, California	2001	Tustin

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OR-03242	Strudwick, Ivan H.	Results of Cultural Resource Shovel Test Pit Excavation for the Carlson Marsh Regrade Project (irwd Project No. 20173; Lsa Project No. Irw330)	2004	Tustin
OR-03243	Smith, Brooks R. and Shannon Younger	Results of Archaeological Monitoring Northpark, Sector 5 Lower Peters Canyon, Irvine Orange County, California	2000	Tustin
OR-03244	Kyle, Carolyn E.	Cultural Resource Assessment for AT&T Wireless Facility 950-013-522E Located in the City of Irvine Orange County, California	2004	Tustin
OR-03245	Shepard, Richard S.	Preliminary Cultural Resources Assessment for Campus-Cornell Signalization, City of Irvine, Orange County, Caltrans District 12	2004	Tustin
OR-03249	Strudwick, Ivan H.	Results of Archaeological Testing of a Portion of CA-ORA-1238/H within the Portola Parkway Extension Project, Orange County, California	1999	Tustin
OR-03251	Billat, Lorna	Moby, CA-8228a	2006	Tustin
OR-03252	Billat, Lorna	Harvard Park, CA-8263A	2006	Tustin
OR-03253	Brown, Joan C. and Maxon, Patrick	Cultural Resources Monitoring for the Proposed Multi-family Rental Project, University of California, Irvine, Orange County, California	2006	Tustin
OR-03254	Shepard, Richard S.	Cultural Constraints Assessment: Modifications to San Diego Creek Channel (F05), Irvine and Newport Beach, Orange County, California	2003	Tustin
OR-03255	Scott, Kim, Brodie, Julie Scrivner, Glenn, Brian, and Gust, Sherri	Cultural Resources Monitoring Report for the Marle Mountain Project, City of Irvine, California	2005	Tustin
OR-03257	Shepard, Richard S.	Section 106 Investigation for Interstate 5/Culver Drive Interchange Improvements, City of Irvine (District 12-Orange County-Interstate 5-post Mile 26.58-charge Unit 12-171-EA 965100)	2004	Tustin
OR-03258	Padon, Beth	Archaeological and Paleontological Monitoring for the Kia Motors Research and Development Center Project in the City of Irvine	2006	Tustin
OR-03259	Various	Final Report a Conservation Charrette at the Irvine Ranch Headquarters & Historic Park	2002	Tustin
OR-03261	Commendador-Dudgeon, Amy, Padon, Beth, and Stewart, J.D.	Archaeological and Paleontological Monitoring for the Plaza Irvine Development, Phase 1, City of Irvine, Orange County, California	2006	Tustin
OR-03262	Aron, Maria G. and Carmack, Shannon	Cultural Resources Assessment Report for the Proposed Sand Canyon Medical Center City of Irvine, Orange County, California	2006	Tustin

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OR-03263	Fulton, Terri	Cultural Resource Assessment Cingular Wireless Facility No. SC 136-01 Irvine, Orange County, California	2004	Tustin
OR-03264	Peterson, Patricia A. and Mason, Roger D.	Cultural Resources Monitoring Report for the Riparian View and Duck Club Road Improvements Project, San Joaquin March Area, Orange County, California	2002	Tustin
OR-03266	Drover, Christopher E.	Archaeological Testing and Evaluation of CA-ORA-904, CA-ORA-1011, CA-ORA-1069, CA-ORA-1525, and CA-ORA-1528, Planning Area 17, Irvine, California	2001	Tustin
OR-03275	Cerrero, Richard and Gallegos, Dennis R.	Cultural Resource Survey Report for the Irvine Ranch Water District, San Joaquin Reservoir Project Orange County, California	2000	Laguna Beach, Tustin
OR-03277	Casen, George A., Romani, John, and Webb, Lois	The Proposed Project is the Widening and General Improvement of Interstate Route 5 Between Route 405 and Route 55 in Orange County, California	1985	El Toro, Tustin
OR-03285	Fulton, Terri and Deborah McLean	Archaeological Mitigation Monitoring Report for the Irvine Desalter Pipelines Project	2006	El Toro, Tustin
OR-03289	Padon, Beth and Commendador-Dudgeon, Amy	Subject: Archaeological and Paleontological Monitoring at the Spectrum 1, Lot 111 Office Buildings and Parking Structure Project, in the City of Irvine	2006	El Toro, Tustin
OR-03290	Smith, Brooks R.	Cultural and Paleontological Resource Assessment Turtle Ridge (PA 27) Habitat Mitigation Project, Bommer Canyon, Orange County, California	2002	Laguna Beach, Tustin
OR-03291	Strudwick, Ivan H. and Carmack, Shannon	Cultural Resource Assessment the Lambert Ranch Project City of Irvine Orange County, California	2005	El Toro
OR-03293	Mason, Roger D.	Historic Property Survey Report for the Sand Canyon Grade Separation Project in the City of Irvine, Orange County, California	2003	Tustin
OR-03294	Drover, Christopher E., Smith, David M., Bonner, Wayne, and McCarthy, Daniel	Testing and Evaluation of CA-ORA-269 and CA-ORA-1485, Planning Area 27, Irvine, California	2001	Laguna Beach, Tustin
OR-03314	Cottrell, Marie G.	Results of Archaeological Survey on a 30-40 Acre Plot of Land at the Corner of Culver Drive and Hicks Canyon Wash, Orange County, California	1976	Tustin
OR-03331	Billat, Lorna	UC Davis Monopalm/LA-2794B, 7601 Irvine Boulevard, Irvine, Orange County, Ca 92618	2006	El Toro
OR-03347	Benner, Michael A.	Supplemental Environmental Impact Statement for the Eastern Transportation Corridor TCA EIS 2-1	1992	Black Star Canyon, El Toro, Orange, Tustin

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OR-03353	Schneeberger, Sandra L., Roeder, Mark, and Padon, Beth	Paleontological Resource Assessment Report of a ~3.5 Acre Site, Located at 18880 Douglas Drive, 92612 for the Carlyle Project, a Part of the Irvine Business Center (IBC) Development APN# 445-013-02	2006	Tustin
OR-03354	Schneeberger, Sandra L., Drover, Christopher, and Schulga, Corry	Phase I Archaeological Resource Survey of a ~3.5 Acre Site, Located at 18880 Douglas Drive, City of Irvine, County of Orange, California, 92612 for the Carlyle Project, a Part of the Irvine Business Center (IBC) Development APN# 445-013-02	2006	Tustin
OR-03355	Marvin, Judith	Historical Resources Evaluation Report for the Interstate 5/S and Canyon Avenue Interchange Improvement Project, City of Irvine, Orange County, California	2005	Tustin
OR-03357	Archer, Gavin H., Siren, Sarah A., Barnes, Lawrence G., and Crull, Scott	Historical, Archaeological and Paleontological Resources Identification and Evaluation for the Planning Area 39 Project Including Impacts Analysis and Mitigation Options	2005	El Toro, Tustin
OR-03358	Schmidt, Andrew and Shaver, Noelle	Historical Archaeological and Paleontological Resources Identification and Evaluation for the Planning Area 18 Project Including Impacts Analysis and Mitigation Measures	2005	El Toro, Laguna Beach, San Juan Capistrano, Tustin
OR-03364	Billat, Lorna	Honor Farm/7648A, 7601 Irvine Blvd, Irvine, CA, Orange County	2004	El Toro
OR-03369	Drover, Christopher E.	The Shady Canyon Archaeological Project, Irvine, Orange County, California	2004	Laguna Beach, Tustin
OR-03373	Arrington, Cindy and Nancy Sikes	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and II	2006	El Toro, Orange, San Juan Capistrano, Tustin
OR-03380	Padon, Beth	Cultural Resource Assessment for Traveland Project, Irvine, Orange County	2007	Tustin
OR-03381	Padon, Beth	Archaeological and Paleontological Monitoring at the Kia Motors Phase 2 Design Center, Irvine, California	2007	Tustin
OR-03392	Strudwick, Ivan H.	Cultural Resource Survey of the Proposed Irvine Desalter Project, City of Irvine, Orange County, California	2004	El Toro, Tustin
OR-03434	Bonner, Wayne H. and Sarah A. Williams	Cultural Resource Records Search Results and Site Visit for Cingular, Sprint Nextel, T-Mobile and Verizon Telecommunications Facility Candidate Lambert Ranch 11905.5 Lambert Road, Irvine, Orange County, California	2006	El Toro

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OR-03475	Bonner, Wayne H.	Cultural Resource Records Search and Site Visit Results for T-Mobile Candidate LA-02247A (San Onofre-Santiago-M25T1), 18353 Laguna Canyon Road, Irvine, Orange County, California	2006	Tustin
OR-03476	Bonner, Wayne H.	Cultural Resource Records Search and Site Visit Results for Royal Street Communications, LLC Candidate LA2512A (Murphy & Corporate Park), 2802 Barranca Park Way, Irvine, Orange County, California	2007	Tustin
OR-03479	Coulter, David, David Knox, Katherine White, Carlos Martinez, Nicholas M. Magalousis, Thomas A. Wake, and James Sleeper	Archaeological Report # 3 Final: Irvine Family Ranch House, Located at the Irvine Ranch Headquarters Historic Park, County of Orange, California	2007	Tustin
OR-03483	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate LA-02878b (UC AG Research), 7681 Irvine Boulevard, Irvine, Orange County, California	2006	El Toro
OR-03484	Anonymous	New Tower ("NT") Submission Packet, FCC Form 620, the Groves at Jeffrey, LA-2865B	2007	Tustin
OR-03499	Brown, Joan C.	Cultural Resources Monitoring for the Irvine Plaza III Project, City of Irvine, Orange County, California	2007	Tustin
OR-03500	Demcak, Carol R. and Hugh M. Wagner	Report of Archaeological and Paleontological Monitoring of Tustin Legacy Project Area, Former Marine Corps Air Station, Tustin, California	2006	Tustin
OR-03502	Wood, Catherine M.	Archaeological Survey Report San Diego Creek (Facility F05) Upper Newport Bay to I-405 Freeway Programmatic Maintenance Project, Orange County, California	2007	Tustin
OR-03552	Susan Underbrink	Cultural Resources Monitoring for the Irvine Campus Housing Authority Planning Areas 9-3, 9-2, City of Irvine, Orange County, CA	2008	Tustin
OR-03554	Wayne H. Bonner	Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate LA-02890C (San Leandro Park)	2008	Tustin
OR-03557	Wayne H. Bonner	Cultural Resources Records Search and Site Visit for Royal Street Communications, California LLC Candidate LA2516B- La Quinta	2008	Tustin
OR-03559	Lorna Billat	New Tower Submission Packet: Cartel Industries, LA2795C	2009	Tustin

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OR-03560	Joyce Tolbert	Report of Field Trips to Turtle Rock, Irvine, December 11 and 20, 1972	1972	Tustin
OR-03600	Garcia, Kyle H. and Marcy Rockman	Results of Archaeological Survey and Monitoring for Southern California Edison's Pole Replacements after Santiago Fire Along Santiago Canyon Road, Modjeska Canyon Road, and Hicks Canyon Road; Orange County, California; JO:6259-0468	2007	Black Star Canyon, El Toro
OR-03653	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for AT&T Wireless Candidate OC057-02 (Jamboree), 10200 Pioneer Road, Tustin, Orange County, California	2007	Orange
OR-03674	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate LA02927C (RSJ Golf Course), 1 San Joaquin, Irvine, Orange County, California	2007	Tustin
OR-03675	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for Royal Street Communications, LLC Candidate LA2520A (SCE Tower-Aki Nursery), 6900 Alton Parkway, Irvine, Orange County, California	2007	Tustin
OR-03677	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for Royal Street Communications, LLC Candidate LA2515B (Trabuco Crown), 4200 Trabuco Road, Irvine, Orange County, California	2007	Tustin
OR-03700	Fulton, Phil	Archaeological Study Report Verizon Wireless Services Breakwater Facility City of Irvine Orange County, California	2007	Tustin
OR-03702	Archer, Gavin H., David C. Hanna, and Mark R. Deering	Cultural Resources Field Assessment for the Lake Forest Drive and Bake Parkway Extensions Project in City of Irvine Planning Area 34	2007	El Toro
OR-03704	Brown, Joan C.	Cultural Resources Monitoring for the Irvine Plaza IV Project, City of Irvine, Orange County, California	2008	Tustin
OR-03705	Getchel, Barbie and John E. Atwood	Cultural Resources Inventory of the San Joaquin Freshwater March Reserve Phase II Enhancement Plan Project Area in the City of Irvine, Orange County, California	2007	El Toro
OR-03720	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate LA23636D (Trico Building), 1212 McGaw Avenue, Irvine, Orange County, California	2007	Tustin

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OR-03727	Padon, Beth	Archaeological and Paleontological Monitoring for the American Campus Communities Project, Phase II, University of California, Irvine	2007	Tustin
OR-03728	Strudwick, Ivan H.	Cultural Resource Record Search and Survey for a Caltrans Preliminary Environmental Assessment Report (PEAR) I-405/Irvine Center Drive Interchange Project, City of Irvine, Orange County, California	2008	El Toro, Tustin
OR-03731	Rosenthal, Jane	Archaeological and Paleontological Monitoring of Preliminary Grading and Trenching for the Lower Peters Canyon Retail Site, Tentative Parcel Map 93-204, 940122, County Permit # GA950034.	1996	Tustin
OR-03743	Carolyn Losee	Cultural Resources Investigation for T-Mobile LA02880E "Maxwell" 88 Maxwell, Irvine, Orange County, CA	2009	El Toro
OR-03751	Phil Fulton	Cultural Resource Assessment- Verizon Wireless Services, High Grove Facility, City of Irvine, Orange County, CA	2009	El Toro
OR-03758	Anonymous	Frances Packing House: A Historical and Architectural Evaluation with Analysis of Current Conditions and Building Code Constraints.	1976	Tustin
OR-03759	David C. Hanna, Jr.	Tustin Planning Area 20 Project - Cultural Resources Review	2003	Tustin
OR-03761	Phil Fulton	Cultural Resource Assessment: Verizon Wireless Services, Orchard Hills Facility, City of Irvine, Orange County, California	2009	Black Star Canyon, Orange
OR-03764	Daniel Ewers, Jay Michalsky, and Brooks Smith	Archaeological Monitoring Report: Laguna Canyon Road (State Route 133) Realignment & Widening Project, Station 112+80 to Station 175+90, Orange County, California	2008	Laguna Beach, Tustin
OR-03808	Bonner, Wayne	Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate LA33842 (Cedar Grove Park), 11385 Pioneer Road, Tustin, Orange County, California	2009	Orange
OR-03815	Billat, Lorna	Collocation ("CO") Submission Packet FCC FORM 621	2009	Tustin
OR-03816	Drover, Christopher	A Phase I Cultural Resources Inventory for Planning Area 5B, Irvine, CA	2001	El Toro, Tustin
OR-03824	Drover, Christopher	A Cultural Resources Inventory of Planning Areas 1 & 2, Irvine, California	2000	Black Star Canyon, El Toro, Orange, Tustin
OR-03825	Drover, Christopher	A Cultural Resources Inventory of Planning Area 9B and 9C, Irvine, California	2000	El Toro, Tustin

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OR-03858	Wlodarski, Robert	AT&T Wireless Telecommunications Site OC0165 (SCE Glass Circle) Located at the end of Glass Circle, Irvine, California 92604	2010	Tustin
OR-03874	Wlodarski, Robert J.	AT&T Wireless Telecommunications Site LA3219 (Smoke Tree & Irvine Center) NE Quad of Barranca Parkway and Jeffrey Road, Irvine, Ca. 92612	2010	Tustin
OR-03875	Padon, Beth	Archaeological and Paleontological Monitoring for California Avenue Widening Project, UCI, Orange County, California and Archaeological and Paleontological Monitoring for Spectrum 1 (Planning Area 33), City of Irvine, California	2009	Tustin
OR-03876	Padon, Beth and J.D.Stewart	Archaeological and Paleontological Monitoring for California Avenue Widening, University of California, Irvine, California	2010	Tustin
OR-03898	Billat, Lorna	Collocation Submission Packet - Santiago Estrella No. 2, CA-ORC0514D	2010	Tustin
OR-03899	Fulton, Phil	Cultural Resource Assessment - Verizon Wireless Services Stonecliffe Facility, City of Irvine, Orange County, California	2010	Tustin
OR-03917	McKenna, Jeanette A.	Historic Resource Evaluation Report: Hangar 244 of the Former El Toro Marine Corps Air Station (MCAS) and now Located Within the Orange County Great Park, Orange County, California (Project No. B-09-SP-CA-0359).	2010	El Toro
OR-03933	Fitzgerald, Maggie	Orange County Great Park, Cultural Resources Monitoring Report	2010	El Toro
OR-03943	Wlodarski, Robert J.	Record Search and field reconnaissance for proposed AT&T Wireless Telecommunications Site OC0147 (Orchard Hills), located northeast of Portola Parkway and Culver Drive, Irvine, Orange County, California	2010	Black Star Canyon, Orange
OR-03945	Wlodarski, Robert J.	Record Search and Field Reconnaissance for Proposed AT&T Wireless Telecommunications Site OC0148 (High Grove) Located Northeast of Portola Parkway and Culver Drive, Irvine, California, 92602	2010	El Toro
OR-03946	Bedell, Joan and Ed Moore	ORA 119 (Town Center Site)	1984	Tustin
OR-03947	anonymous	Progress Report on Test-Level Investigation of CA-ORA-729	1979	Tustin
OR-03948	Sicoli, Karen and Jennifer Regen	Irvine Ranch Agricultural Headquarters Historical Society	1992	Tustin

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OR-03961	Wlodarski, Robert J.	Records Search and Field Reconnaissance for Proposed AT&T Wireless Telecommunications Site LA3174 (SCE Santiago Substation), Located Along Barranca Parkway, Irvine, California.	2010	Tustin
OR-03979	Chung, Jae	University of California at Irvine has Submitted an Application for Department of the Army Authorization, Under Section 404 of the Clean Water Act to Discharge Fill Materials Associated with the Expansion of the Health Science Center in Unnamed Tributary	2007	Tustin
OR-03982	Wlodarski, Robert J.	A Record Search and Field Reconnaissance for Proposed AT&T Wireless Telecommunications Site OC0164 (SCE Santiago Tower), Located at the Northeast Corner of Culver Drive and 405 Freeway, Irvine, California, 92614	2011	Tustin
OR-03989	Deering, Mark and Mason, Roger D.	Cultural Resources Documentation and Monitoring of Southern California Edison Access Roads During Maintenance by the Orange County Fire Authority, 2010 Orange County, California	2011	Black Star Canyon, El Toro, Laguna Beach, Orange, San Juan Capistrano, Tustin
OR-03999	Fulton, Phil	Cultural Resource Assessment, Verizon Wireless Services Zot Facility, City of Irvine, Orange County, California	2011	Tustin
OR-04000	Strauss, Monica, Ehringer, Candace, and Bray, Madeleine	Irvine Ranch Water District Wells 21 and 22 and Tustin Legacy Well 1 (TL-1) Projects, Phase I Cultural Resources Assessment	2010	Tustin
OR-04029	Deering, Mark and Roger Mason	Cultural Resources Monitoring of Southern California Edison Access Roads Maintained by Orange County Fire Authority, Orange County, California (JPA E6088-0031; I.O. 305869)	2010	Black Star Canyon, El Toro, Laguna Beach, Orange, San Juan Capistrano, Tustin
OR-04031	Padon, Beth	Subject: Phase I Archaeological Study Report for Alumni Center at the University of California Irvine Campus	2011	Tustin
OR-04036	Archer, Gavin, David C. Hanna, Matthew Wetherbee, and Mark R. Deering	Archaeological Data Recovery at Sites PA6-15 and -18 and CA-ORA-244, Locus G Planning Area 6, Phase 2, Neighborhood 4A Irvine, California	2007	El Toro
OR-04037	Archer, Gavin and David Hanna	Archaeological Discovery Report and In Situ Preservation Plan Site PA6-17 Planning Area 6 Phase II, Neighborhood 4A Irvine, California	2008	El Toro

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OR-04039	Archer, Gavin	Pre-Construction Archaeological Investigations for the Planning Area 6, Phase I Project including Archival Research, Test Excavations, Data Recovery Excavations, Tree Removal Monitoring, and Re-survey	2007	El Toro
OR-04040	Archer, Gavin	Archaeological Monitoring and Investigations During Construction Planning Area 6, Neighborhoods 1 and 2, City of Irvine	2007	El Toro
OR-04041	Archer, Gavin	Preliminary Draft Report Test Excavation and Evaluation of Archaeological Discovery PA6-11 and Discovery Treatment Plan Neighborhood 4A, Planning Area 6, City of Irvine	2007	El Toro
OR-04044	Laroque, Mark	Alton Parkway #879054 6 Mason Road, Irvine, Orange, CA	2009	El Toro
OR-04084	Fulton, Terri and Deborah McLean	Cultural Resource Assessment of 22 Natural Treatment System Facility Sites within the San Diego Creek Watershed - Natural Treatment System Project, Irvine Ranch Water District, Orange County, California	2005	El Toro, Orange, Tustin
OR-04088	Schmidt, James	Archaeological Letter Report: Myford 12 KV Deteriorated Pole Replacement Project (WO6043-4800, 0-4869), SAP TD#521413, Rattlesnake Canyon Area, Orange County, California	2011	El Toro
OR-04103	Fulton, Phil	Finding of Effect for the Route 73 Basin Sedimentation Project, Orange County, California, EA 0H4400	2009	Laguna Beach, San Juan Capistrano, Tustin
OR-04106	Bray, Madeleine	IRWD Biosolids Handling and Energy Recovery Facilities Project Draft Phase I Cultural Resources Study	2011	Tustin
OR-04107	Archer, Gavin, Hanna, David, and Deering, Mark	Cultural Resources Field Assessment for the Lake Forest Drive and Bake Parkway Extensions Project in City of Irvine Planning Area 34	2007	El Toro
OR-04122	Wlodarski, Robert J. and Diane Bonner	Cultural Resources Record Search and Archaeological Survey for the Proposed Royal Street Communications, California, LLC, Site LA2866D (Tustin Sports Park) Located at 12850 Robinson Drive, Tustin, Orange County, California, 92782	2010	Tustin
OR-04126	Pettus, Roy, Alexa Clausen, and Michael Sampson	Historic Property Survey Report/Determination of Eligibility and Finding of no adverse effect for El Morro Conversion Project, Crystal Cove State Park, Orange County, California	2004	Laguna Beach

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OR-04136	Weitze, Karen and Christy Dolan	Historic American Building Survey for the Marine Corps Air Station, Tustin Lighter-Than-Air Ship Hangarss (HABS No. CA-2707), Orange County, California	2000	Tustin
OR-04137	Unknown	The Tustin Hangars: Titans of History - An Historical Account of the MCAS Tustin Hangars	2008	Tustin
OR-04151	Mitchell, Laura Lee	Coyote Canyon Cave, an Inner Coastal Rockshelter Excavation of CA-ORA-236	1991	Laguna Beach
OR-04158	Stone, Michel	Historic Survey Report, Alton Avenue Overcrossing at SR-55	2003	Tustin
OR-04159	Anderson, Carson	Alton Avenue Overcrossing at State Route 55 Historical Resources Evaluation Report, Orange County California	2010	Tustin
OR-04164	Clark, Jennifer	N. Wood #879024 4860 Irvine Blvd Irvine, Orange County, CA	2011	Tustin
OR-04165	Padon, Beth	Paleontological Monitoring Gavin Herbert Eye Institute, University of California, Irvine	2012	Tustin
OR-04205	Wlodarski, Robert	Section 106 Consultation for Proposed Collocation: LA3150- Portola Parkway, 4883 Portola Parkway, Irvine	2012	El Toro
OR-04223	Flynn, Chris	Notification of Finding of No Adverse Effect with Standard Conditions for the Bridge Deck Maintenance and Sealing at 30 Locations Throughout Orange County, California	2011	El Toro, San Juan Capistrano, Tustin,
OR-04226	Padon, Beth	Archaeological and Paleontological Monitoring St Cypress Village (PA 40) Jeffery Road Street Improvements for North of I-5 to Trabuco Road, Irvine, California	2012	Tustin
OR-04234	Billat, Lorna	New Tower Submission Packet, Jamboree-Warner	2012	Tustin
OR-04265	Brown, Joan, Deering, Mark, and Sawyer, William	Archaeological Resource Monitoring During Excavation Activities for Tustin Legacy Expansion, City of Tustin, County of Orange, California	2013	Tustin
OR-04269	Wlodarski, Robert	Results for a Phase I Archaeological Study for Proposed AT&T Wireless Telecommunications LA3066 (Irvine Water District) Located at 13826 Sand Canyon Avenue, Irvine, California	2013	El Toro
OR-04296	McKenna, Jeanette	Beckman High School, Irvine, Archaeological Records Search	2013	Tustin
OR-04297	Bonner, Wayne	Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate OCO281 (Stonecliffe) 233-1/2 Stonecliffe Aisle, Irvine, Orange County, California, CASPR No. 3551003407	2013	Tustin

Report No.	Authors	Title	Year	Quad
OR-04320	Maxon, Patrick	Cultural Resources Constraints Assessment for the Planning Area 33 Phase 3 (Lots 107/108 and 112/113) Project, City of Irvine, Orange County, California	2009	Tustin
OR-04321	Fulton, Phil	Cultural Resource Assessment Class I Inventory, Verizon Wireless Services PA 40 Facility, City of Irvine, Orange County	2013	Tustin
OR-04322	Fulton, Phil	Cultural Resource Assessment Class I Inventory, Verizon Wireless Services Grassland-Jeffery Facility City of Irvine, Orange County, California	2014	Tustin
OR-04333	O'Neil, Stephen	Archaeological Resources Excavation Results Report Alton Parkway Extension Project Orange County, California	2012	El Toro
OR-04334	O'Neil, Stephen	Cultural and Paleontological Monitoring Report for the Alton Parkway Extension Project (County Job No ETD2002), City of Irvine, Orange County, California; Project 5780	2012	El Toro
OR-04339	Underbrink, Susan and Bradford, Ileana	Cultural Resource Monitoring Report, Paseo de Verdugo Project San Juan Capistrano, Orange County, California	2014	San Juan Capistrano
OR-04362	Shinn, Juanita R.	Cultural Resources Literature Review of the Irvine Desalter Study Area	1990	Tustin
OR-04364	Brown, Joan C.	Cultural Resources Reconnaissance of the 25 Acre Mason Park Project in Orange County, California	1990	Tustin
OR-04373	Brunzell, David	Cultural Resources Assessment South Orange County Community College District Master Plan Irvine Valley College and Saddleback College Campuses Mission Viejo and Irvine, Orange County, California	2011	San Juan Capistrano, Tustin
OR-04381	Braco, Rachel	Archaeological Monitoring for the Excavation of Verizon Trenching at Southern California Edison Tower M26-T2, Laguna Canyon, Orange County, California (LSA Project No. SCE1303-CWA595)	2014	Tustin
OR-04382	Brunzell, David	Cultural Resources Assessment of the Crown Castle USA Turtlerock High Level Fiber Route, City of Irvine, Orange County, California (BCR Consulting Project No. SYN1103)	2011	Tustin
OR-04385	Sikes, Nancy	Archaeological Survey Report for the Peters Canyon Off-Street Bikeway Lighting Improvements Project, City of Irvine, Orange County, California	2014	Tustin

Report No.	Authors	Title	Year	Quad
OR-04399	Bonner, Wayne	Cultural Resources Records Search and Site Visit Results for Sprint Nextel Candidate OG03XC999 (Barranca) 2802 Barranca Parkway, Irvine, Orange County, California	2013	Tustin
OR-04402	Bonner, Diane, Wills, Carrie, and Crawford, Kathleen	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate LA02520A (SC090 Shepard of Peace Lutheran Church) 18182 Culver Drive, Irvine, Orange County, California	2014	Tustin
OR-04402	Bonner, Wayne H. and Kathleen A. Crawford	Direct APE Historic Architectural Assessment for T-Mobile West, LLC Candidate LA02520A (SC090 Shepard of Peace Lutheran Church) 18182 Culver Drive, Irvine, Orange County, California	2014	Tustin
OR-04403	Strudwick, Ivan	Cultural Resource Monitoring Report for the Sand Canyon Avenue Undercrossing Project, City of Irvine County of Orange, California	2014	Tustin
OR-04405	Bonner, Diane and Wills, Carrie	Cultural Resources Records Search and Site Visit Results for Verizon Wireless Candidate Cherbourg, 4918 Irvine Center Drive, Irvine, Orange County, California	2014	Tustin
OR-04452	Bonner, Diane and Wills, Carrie	Cultural Resources Records Search and Site Visit Results for Verizon Wireless Candidate Limestone, Intersection of Portola Parkway and 241 Toll Road, Irvine, Orange County, California	2014	El Toro
OR-04453	Bonner, Diane and Wills, Carrie	Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate CLV1261 (TIC PA 5B) Center Median of Future Encore Road NW of Jeffery Road, Irvine, Orange County, California EBI Project No. 61146573	2014	El Toro
OR-04454	Bonner, Diane and Wills, Carrie	Cultural Resources Records Search and Site Visit Results for Verizon Wireless Candidate PA5b, Center Median of Future Encore Road and Northwest of Jeffery Road, Irvine, Orange County, California	2014	El Toro
OR-04455	Bonner, Diane and Wills, Carrie	Cultural Resources Records Search and Site Visit Results for Verizon Wireless Candidate Navigator, Sand Canyon Avenue and Trabuco Road, Irvine, Orange County, California	2014	El Toro
OR-04477	Strudwick, Ivan	Status Assessment of Cultural Resources Within the Coyote Canyon Landfill, City of Newport Beach County of Orange, California	2014	Laguna Beach, Tustin

Report No.	Authors	Title	Year	Quad
OR-04478	Strudwick, Ivan	Cultural Resource Analysis for the Technology Drive Extension Project in th City of Irvine, Orange County, California	2013	El Toro, Tustin
OR-04515	Tang, Bai "Tom"	Evaluation of Potential Historical Resource Phineas Banning Alumni House (Building #233), University of California, Irvine, City of Irvine, Orange County	2015	Tustin
OR-04519	Freeberg, Logan	Archaeological Mitigation Monitoring Report for the Bommer Canyon Nature Walk Project, City of Irvine, County of Orange, California	2015	Laguna Beach
OR-04522	Fulton, Phil	Controlled Demolition of Archaeological Sites CA-ORA-361, CA-ORA-811, CA-ORA-1610, and CA-ORA-1615, Planning Area I, Irvine, California	2015	El Toro
OR-04542	Braco, Rachel	Results of Archaeological Mitigation Monitoring for the Hidden Canyon Project, City of Irvine, Orange County, California (LSA Project No. GLA1301)	2014	El Toro, Tustin
OR-04543	N/A	Cultural Resources Records Search and Site Visit Results for Verizon Wireless Candidate Gillette, 1851 Reynolds Avenue, Irvine, Orange County, California	2014	Tustin
OR-04543	Bonner, Wayne H. and Kathleen A. Crawford	Direct APE Historic Architectural Assessment for Verizon Wireless Candidate Gillette, 1851 Reynolds Avenue, Irvine, Orange County, California	N/A	Tustin
OR-04544	Bonner, Wayne H.	Phase I Archaeological Assessment for the Proposed Harvard Square Project	2001	Tustin
OR-04545	Fulton, Phil	Cultural Resource Assessment Class III Inventory, Verizon Wireless Services, Barranca Facility, City of Irvine, County of Orange, California	2014	Tustin
OR-04559	Fulton, Terri	Cultural Resources Assessment, West Loma Restoration Project, Orange County, California	2015	Black Star Canyon
OR-04568	Fulton, Phil	Cultural Resource Assessment Class III Inventory, Verizon Wireless Services, Settlers Park Facility, City of Irvine, County of Orange, California	2015	Tustin
OR-04574	Brunzell, David	Cultural Resources Assessment of the Crown Castle USA Southern California Metro PCS DAS Project, Orange and Los Angeles Counties, California (BCR Consulting Project No. SYN1007)	2011	El Toro, Laguna Beach, Orange, San Juan Capistrano, Tustin

APPENDIX E. LIST OF KNOWN SITE RECORDS

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
57	CA-ORA-000057	Multi-component Site	Foundation/ structure pads, privies/dump/trash scatter, water conveyance system, lithic scatter, burials, habitation debris, "San Joaquin Gun Club"	1949, 1985, 1991, 1993	Within	Tustin	N/A
111	CA-ORA-000111/H	Multi-component Site	Remanants of Don Jose Sepulveda adobe, San Joaquin Home Ranch, Burials, lithic scatter, ceramic scatter, hearths/pits, habitation debris, shell midden.	1934, 1938, 1950, 1951, 1977	Within	Tustin	N/A
115	CA-ORA-000115	Prehistoric Site	Lithic scatter, midden-sparse shell.	1963, 1966, 1976, 1985	Within	Tustin	N/A
116	CA-ORA-000116	Prehistoric Site	"House pits, hearths, habitation debris, shell midden, lithic scatter,	1963, 1976, 1985, 2000	Within	Tustin	N/A
117	CA-ORA-000117	Prehistoric Site	Lithic scatter	1963, 1988	Within	Tustin	N/A
118	CA-ORA-000118	Prehistoric Site	Lithic scatter, habitation debris	1963, 1976	Within	Tustin	N/A
119	CA-ORA-000119	Prehistoric Site	Lithic scatter, habitation debris.	1963, 1966, 1984	Within	Tustin	N/A
120	CA-ORA-000120	Prehistoric Site	Lithic scatter, habitation debris.	1963, 1974	Within	Tustin	N/A
121	CA-ORA-000121/H	Multi-component Site	Burials, lithic scatter, hearths, habitation debris, privies/dumps/trash scatter.	1963, 1966, 1970, 1985, 1991, 1993, 1996, 1998	Within	Tustin	N/A
122	CA-ORA-000122	Prehistoric Site	Habitation Debris, shell midden	1963	Within	Tustin	N/A
123	CA-ORA-000123	Prehistoric Site	Lithic scatter, habitation debris, shell midden.	1963, 1976, 1985	Within	Tustin	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
161	CA-ORA-000161	Prehistoric Site	Bedrock milling feature, lithic scatter, habitation debris.	1966, 1998	Within	Tustin	N/A
178	CA-ORA-000178	Prehistoric Site	Lithic scatter, habitation debris.	1966, 1996	Within	Tustin	N/A
179	CA-ORA-000179	Prehistoric Site	Lithic scatter.	1966	Within	Tustin	N/A
180	CA-ORA-000180	Prehistoric Site	Lithic scatter.	1966	Within	Tustin	N/A
181	CA-ORA-000181	Prehistoric Site	Lithic scatter, bedrock milling feature, habitation debris.	1966, 1966, 1976, 1987, 1991	Within	Tustin	N/A
195	CA-ORA-000195	Prehistoric Site	Lithic scatter, bedrock milling feature, habitation debris.	1967	Within	Tustin	N/A
196	CA-ORA-000196/H	Multi-component Site	Burials, projectile points, knives, lithic scatter, privies/dumps/trash scatter, foundations/structure pads, habitation debris.	1967, 1993, 1996	Within	Tustin	N/A
197	CA-ORA-000197	Prehistoric Site	Lithic scatter, habitation debris.	1967, 1977	Within	Tustin	N/A
218	CA-ORA-000218	Prehistoric Site	Lithic scatter, habitation debris, shell midden.	1966, 1976, 1976, 1985, 2008	Within	Tustin	N/A
225	CA-ORA-000225/H	Multi-component Site	Foundations/structure pads, privies/dumps/trash scatters. wells/cisterns, water conveyance system, Other - Eucalyptus and pepper trees, lithic scatter, habitation debris.	1966, 1985, 1991, 1993, 2008	Within	Tustin	N/A
228	CA-ORA-000228	Prehistoric Site	Turtle Rock and associated village. Lithic scatter, cairns/rock features, habitation debris.	1967	Within	Tustin	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
244	CA-ORA-000244	Prehistoric Site	Lithic scatter, hearths/pits, trails/linear earthworks, habitation debris.	1965, 1977, 1979, 2001, 2008	Within	El Toro	N/A
269	CA-ORA-000269	Prehistoric Site	Petroglyphs, hearths/pits, cave shelter, habitation debris-shell midden.	1969, 1997	Within	Laguna Beach	N/A
270	CA-ORA-000270	Prehistoric Site	Lithic scatter, petroglyphs, pictographs, cave shelter, habitation debris, disc bead.	1969, 1985, 1988, 1991, 1997	Within	Laguna Beach	N/A
273	CA-ORA-000273	Prehistoric Site	Cave shelter, habitation debris.	1969, 1997	Within	Laguna Beach	N/A
341	CA-ORA-000341	Prehistoric Site	Lithic scatter, habitation debris.	1972, 1983, 1984, 2010	Within	Tustin	N/A
342	CA-ORA-000342	Prehistoric Site	Lithic scatter.	1972	Within	Tustin	N/A
343	CA-ORA-000343	Prehistoric Site	Lithic scatter, rock shelter complex, and habitation debris.	1972, 1985	Within	Tustin	N/A
344	CA-ORA-000344	Prehistoric Site	Lithic scatter, hearths/pits, habitation debris.	1972, 1994	Within	Tustin	N/A
349	CA-ORA-000349	Prehistoric Site	Lithic scatter, habitation debris.	1972, 2000	Within	Tustin	N/A
350	CA-ORA-000350	Prehistoric Site	Lithic scatter, rock shelter, habitation debris.	1972	Within	Tustin	N/A
361	CA-ORA-000361	Prehistoric Site	Fire affected rocks, lithic scatter/ trails/linear earthworks.	1972, 2015	Within	El Toro	N/A
373	CA-ORA-000373	Prehistoric Site	Burials, lithic scatter, cairns/rock features, habitation debris.	1972, 1977, 1979, 1984	Within	Tustin	N/A
376	CA-ORA-000376	Prehistoric Site	Part of Turtle Rock Village. Lithic scatter and habitation debris.	(Date Unknown) , 1972	Within	Tustin	N/A
377	CA-ORA-000377	Prehistoric Site	Part of Turtle Rock Village. Lithic scatter and habitation debris.	(Date Unknown) , 1972	Within	Tustin	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
378	CA-ORA-000378	Prehistoric Site	Part of Turtle Rock Village. Lithic scatter, hearth/pits, habitation debris.	1972, 1979, 1991, 1992	Within	Tustin	N/A
379	CA-ORA-000379	Prehistoric Site	Lithic scatter and rock shelter complex.	1972	Within	Tustin	N/A
382	CA-ORA-000382	Prehistoric Site	Lithic scatter, habitation debris.	1972, 1994, 1996	Within	Tustin	N/A
383	CA-ORA-000383	Prehistoric Site	Lithic scatter, rock shelter/cave, habitation debris.			Tustin	N/A
384	CA-ORA-000384	Prehistoric Site	Lithic scatter and habitation debris.	1972	Within	Tustin	N/A
386	CA-ORA-000386	Prehistoric Site	Lithic scatter, habitation debris.	1973	Within	Tustin	N/A
387	CA-ORA-000387	Prehistoric Site	Lithic scatter and pestle.	1973, 1994	Within	Tustin	N/A
391	CA-ORA-000391	Prehistoric Site	Lithic scatter.	1973, 1984	Within	Tustin	N/A
478	CA-ORA-000478	Prehistoric Site	Lithic scatter.	1974, 1990	Within	El Toro	N/A
494	CA-ORA-000494	Prehistoric Site	Lithic scatter, ceramic scatter, cairns/rock features, Hearths/pits, rock shelter/cave, habitation debris.	1974	Within	Tustin	N/A
495	CA-ORA-000495	Prehistoric Site	Lithic scatter and habitation debris.	1974, 1978, 1998	Within	Tustin	N/A
496	CA-ORA-000496	Prehistoric Site	Lithic scatter and habitation debris.	1974, 1978	Within	Tustin	N/A
499	CA-ORA-000499	Prehistoric Site	Lithic scatter and habitation debris.	1974, 1998, 2001	Within	Tustin	N/A
508	CA-ORA-000508	Prehistoric Site	Lithic scatter and habitation debris.	1975, 1979	Within	Tustin	N/A
513	CA-ORA-000513	Prehistoric Site	Lithic scatter and habitation debris.	1976	Within	Tustin	N/A
543	CA-ORA-000543	Prehistoric Site	Lithic scatter.	1976, 1991, 1994	Within	Tustin	N/A
545	CA-ORA-000545	Prehistoric Site	Lithic scatter, hearth/pits, and habitation debris.	1976, 1982, 2001, 2007	Within	El Toro	N/A
552	CA-ORA-000552	Prehistoric Site	Lithic scatter and habitation debris.	1976	Within	Tustin	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
553	CA-ORA-000553	Prehistoric Site	A mano and habitation debris.	1976	Within	Tustin	N/A
554	CA-ORA-000554	Prehistoric Site	Lithic scatter.	1976	Within	Tustin	N/A
575	CA-ORA-000575	Prehistoric Site	Lithic scatter and habitation debris.	1975, 1981	Within	Tustin	N/A
602	CA-ORA-000602	Prehistoric Site	Lithic scatter.	1976, 2002	Within	El Toro	N/A
618	CA-ORA-000618	Prehistoric Site	Lithic scatter and habitation debris.	1977, 2008	Within	Laguna Beach	N/A
649	CA-ORA-000649	Prehistoric Site	Lithic scatter and habitation debris.	1977, 1982, 1993, 1995, 1996, 2001.	Within	El Toro	N/A
650	CA-ORA-000650	Prehistoric Site	Lithic scatter, habitation debris.	1977, 2001	Within	El Toro	N/A
719	CA-ORA-000719	Prehistoric Site	Lithic scatter	1978	Within	El Toro	N/A
729	CA-ORA-000729	Prehistoric Site	Lithic scatter	1978, 1979	Within	Tustin	N/A
731	CA-ORA-000731	Prehistoric Site	Lithic scatter.	1978, 1994	Within	Laguna Beach	N/A
732	CA-ORA-000732	Prehistoric Site	Rock shelter, lithic scatter, and habitation debris.	1978, 1982, 1994	Within	Laguna Beach	N/A
734	CA-ORA-000734	Prehistoric Site	Pictographs, rock shelter, and habitation debris.	1978, 1982, 1985	Within	Laguna Beach	N/A
735	CA-ORA-000735	Prehistoric Site	Pictographs, lithic scatter, hearths/pits, rock shelter, habitation debris.	1978, 1982, 1985	Within	Laguna Beach	N/A
736	CA-ORA-000736	Prehistoric Site	Lithic scatter, hearth/pits, rock shelter, habitation debris.	1978, 1982, 1985, 1991	Within	Laguna Beach	N/A
755	CA-ORA-000755	Prehistoric Site	Lithic scatter.	1978, 1996	Within	El Toro	N/A
756	CA-ORA-000756	Prehistoric Site	Lithic scatter.	1978, 1996	Within	El Toro	N/A
757	CA-ORA-000757	Prehistoric Site	Lithic scatter.	1978	Within	El Toro	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
758	CA-ORA-000758	Prehistoric Site	Lithic scatter.	1978, 1981, 1996	Within	El Toro	N/A
759	CA-ORA-000759	Prehistoric Site	Lithic scatter.	1978, 1996	Within	El Toro	N/A
760	CA-ORA-000760	Prehistoric Site	Lithic scatter.	1978, 1996	Within	El Toro	N/A
761	CA-ORA-000761	Prehistoric Site	Lithic scatter and habitation debris.	1978, 1979, 1984, 2001	Within	El Toro	N/A
762	CA-ORA-000762	Prehistoric Site	Lithic scatter, hearths/ pits, habitation debris.	1978, 1979, 1982, 1984, 2001	Within	El Toro	N/A
767	CA-ORA-000767	Prehistoric Site	Lithic scatter	1978, 1998	Within	Tustin	N/A
769	CA-ORA-000769	Prehistoric Site	Lithic scatter.	1978, 1998	Within	El Toro	N/A
798	CA-ORA-000798	Prehistoric Site	Bedrock milling feature and habitation debris.	1979, 1982	Within	Laguna Beach	N/A
799	CA-ORA-000799	Prehistoric Site	Bedrock milling feature.	1979, 1982	Within	Laguna Beach	N/A
800	CA-ORA-000800	Prehistoric Site	Bedrock milling feature.	1979, 1982	Within	Laguna Beach	N/A
801	CA-ORA-000801	Prehistoric Site	Bedrock milling feature.	1979, 1982	Within	Laguna Beach	N/A
803	CA-ORA-000803	Prehistoric Site	Lithic scatter.	1979, 1994	Within	Laguna Beach	N/A
804	CA-ORA-000804	Prehistoric Site	Lithic scatter.	1979, 1984	Within	Laguna Beach	N/A
805	CA-ORA-000805	Prehistoric Site	Lithic scatter	1979	Within	Laguna Beach	N/A
806	CA-ORA-000806	Prehistoric Site	Lithic scatter and habitation debris.	1979, 1982, 1994	Within	Tustin	N/A
807	CA-ORA-000807	Prehistoric Site	Lithic scatter, rock shelter, and habitation debris.	1979, 1994	Within	Tustin	N/A
808	CA-ORA-000808	Prehistoric Site	Rock shelter, lithic scatter, and habitation debris.	1979, 1994	Within	Tustin	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
809	CA-ORA-000809	Prehistoric Site	Rock shelter, lithic scatter, habitation debris.	1979, 1994	Within	Tustin	N/A
810	CA-ORA-000810	Prehistoric Site	Lithic scatter, hearths/pits.	1979, 1994	Within	Tustin	N/A
811	CA-ORA-000811	Prehistoric Site	Rock shelter, lithic scatter, hearth pits, habitation debris.	1979, 2015	Within	El Toro	N/A
815	CA-ORA-000815	Prehistoric Site	Rock shelter, lithic scatter, hearths/pits, habitation debris.	1979, 1984	Within	Tustin	N/A
822	CA-ORA-000822	Prehistoric Site	Lithic scatter, quarry, habitation debris.	1979	Within	Tustin	N/A
904	CA-ORA-000904	Prehistoric Site	Lithic scatter and habitation debris.	1980, 1998	Within	Tustin	N/A
944	CA-ORA-000944	Prehistoric Site	Habitation debris.	1980, 1980	Within	Laguna Beach	N/A
1029	CA-ORA-001029	Prehistoric Site	Lithic scatter, cairns/rock feature, rock shelter, habitation debris, and disk bead.	1982, 1985, 1991	Within	Laguna Beach	N/A
1041	CA-ORA-001041	Prehistoric Site	Lithic scatter and quarry	1983, 1999, 2008	Within	Tustin	N/A
1069	CA-ORA-001069	Prehistoric Site	Lithic scatter and habitation debris.	1984, 1998	Within	Tustin	N/A
1070	CA-ORA-001070	Prehistoric Site	Lithic scatter and habitation debris.	1984, 1988, 2001	Within	El Toro	N/A
1077	CA-ORA-001077	Prehistoric Site	Petroglyphs and cave.	1984	Within	Laguna Beach	N/A
1080	CA-ORA-001080	Prehistoric Site	Rock shelter and habitation debris.	1985, 1997	Within	Laguna Beach	N/A
1082	CA-ORA-001082	Prehistoric Site	Lithic scatter, ceramic scatter, rock shelter, habitation debris, shell bead.	1985, 1991, 1997	Within	Laguna Beach	N/A
1083	CA-ORA-001083	Prehistoric Site	Lithic scatter, rockshelter, and habitation debris.	1985, 1991, 1997	Within	Laguna Beach	N/A
1093	CA-ORA-001093	Prehistoric Site	Rock shelter and habitation debris-shell midden.	1985, 1997	Within	Laguna Beach	N/A
1094	CA-ORA-001094	Prehistoric Site	Lithic scatter, rock shelter, petroglyph, habitation debris-shell midden.	1985, 1997	Within	Laguna Beach	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
1110	CA-ORA-001110	Prehistoric Site	Lithic scatter.	1986, 2004, 2005	Within	El Toro	N/A
1114	CA-ORA-001114	Prehistoric Site	Lithic scatter and habitation debris.	1987, 1994	Within	El Toro	N/A
1119	CA-ORA-001119	Prehistoric Site	Lithic scatter and habitation debris.	1987, 1991	Within	El Toro	N/A
1194	CA-ORA-001194/H	Multi-component Site	Lithic scatter, habitation debris and reservoirs.	1988	Within	El Toro	N/A
1202	CA-ORA-001202H	Multi-component Site	Ranch/farm, ancillary buildings, three ranch dwellings, a barn, educational building.	1997	Within	Tustin	N/A
1209	CA-ORA-001209	Prehistoric Site	Lithic scatter.	1989, 2008	Within	Laguna Beach	N/A
1225	CA-ORA-001225	Prehistoric Site	Lithic scatter.	1990	Within	Black Star Canyon	N/A
1238	CA-ORA-001238/H	Multi-component Site	Privies/dumps/trash scatter, lithic scatter, habitation debris.	1990, 1998	Within	Tustin	N/A
1239	CA-ORA-001239	Prehistoric Site	Lithic scatter and quarry.	1990	Within	El Toro	N/A
1248	CA-ORA-001248	Prehistoric Site	Part of Turtle Rock Village. Lithic scatter, habitation debris, shell beads.	1990	Within	Tustin	N/A
1274	CA-ORA-001274	Prehistoric Site	Hearth pit habitation debris.	1990	Within	Tustin	N/A
1295	CA-ORA-001295	Prehistoric Site	Lithic scatter, heart, habitation debris.	1990	Within	Tustin	N/A
1297	CA-ORA-001297	Prehistoric Site	Lithic scatter, cairns/rock features, and habitation debris.	1991, 2001	Within	El Toro	N/A
1298	CA-ORA-001298	Prehistoric Site	Lithic scatter, cairns/rock features, and habitation debris.	1991, 1991	Within	El Toro	N/A
1304	CA-ORA-001304	Prehistoric Site	Lithic scatter.	1991, 1994	Within	Tustin	N/A
1311	CA-ORA-001311	Prehistoric Site	Lithic scatter and habitation debris.	1991, 2001	Within	El Toro	N/A
1347	CA-ORA-001347	Prehistoric Site	Lithic scatter.	1993	Within	Tustin	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
1348	CA-ORA-001348	Prehistoric Site	Lithic scatter.	1993	Within	Tustin	N/A
1355	CA-ORA-001355	Prehistoric Site	Lithic scatter.	1993	Within	Tustin	N/A
1356	CA-ORA-001356	Prehistoric Site	Lithic scatter.	1988, 1996	Within	El Toro	N/A
1358	CA-ORA-001358	Prehistoric Site	Lithic scatter and habitation debris.	1988, 1996	Within	Tustin	N/A
1370	CA-ORA-001370	Prehistoric Site	Lithic scatter and habitation debris.	1994	Within	Laguna Beach	N/A
1371	CA-ORA-001371/H	Multi-component Site	Privies/dumps/trash scatters, Machinery, standing structures, lithic scatter, ancillary building.	1994, 1995	Within	El Toro	N/A
1420	CA-ORA-001420	Prehistoric Site	Lithic scatter, rock shelter/cave; habitation debris.	1994	Within	Tustin	N/A
1421	CA-ORA-001421	Prehistoric Site	Lithic scatter and Habitation debris.	1994	Within	Tustin	N/A
1422	CA-ORA-001422	Prehistoric Site	Rock shelter, lithic Scatter, habitation debris.	1994	Within	Tustin	N/A
1423	CA-ORA-001423	Prehistoric Site	Rock shelter, hearths/ pits, and habitation debris.	1994	Within	Tustin	N/A
1424	CA-ORA-001424	Prehistoric Site	Habitation debris.	1995, 1998	Within	Tustin	N/A
1425	CA-ORA-001425	Prehistoric Site	Lithic scatter and habitation debris.	1994	Within	Tustin	N/A
1426	CA-ORA-001426	Prehistoric Site	Rock shelter/ cave and habitation debris.	1994	Within	Tustin	N/A
1427	CA-ORA-001427	Prehistoric Site	Rock shelter, lithic scatter, habitation debris.	1994	Within	Tustin	N/A
1431	CA-ORA-001431	Prehistoric Site	Lithic scatter.	1995, 2008	Within	Laguna Beach	N/A
1432	CA-ORA-001432	Prehistoric Site	Lithic scatter and habitation debris.	1995, 2008	Within	Laguna Beach	N/A
1440	CA-ORA-001440	Prehistoric Site	Lithic scatter and habitation debris.	1995	Within	El Toro	N/A
1444	CA-ORA-001444	Prehistoric Site	Lithic scatter.	1995	Within	El Toro	N/A
1445	CA-ORA-001445	Prehistoric Site	Lithic scatter, quarry.	1995	Within	El Toro	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
1453	CA-ORA-001453	Prehistoric Site	Lithic scatter and quarry.	1996	Within	El Toro	N/A
1457	CA-ORA-001457/H	Multi-component Site	Privies/dumps/trash scatter, Lithic scatter, habitation debris.	1995	Within	Orange	N/A
1458	CA-ORA-001458	Prehistoric Site	Lithic scatter	1995	Within	El Toro	N/A
1459	CA-ORA-001459	Prehistoric Site	Lithic scatter	1996	Within	El Toro	N/A
1462	CA-ORA-001462	Prehistoric Site	Habitation debris.	1996	Within	El Toro	N/A
1465	CA-ORA-001465	Prehistoric Site	Lithic scatter, hearths/pits, habitation debris.	1997	Within	El Toro	N/A
1475	CA-ORA-001475	Prehistoric Site	Lithic scatter	1996	Within	El Toro	N/A
1480	CA-ORA-001480	Prehistoric Site	Lithic scatter, hearths/pits, habitation debris, brown awl tip.	1997	Within	El Toro	N/A
1485	CA-ORA-001485	Prehistoric Site	Rock shelter and habitation debris.	1997	Within	Laguna Beach	N/A
1487	CA-ORA-001487H	Historic Resource	Privies/dumps/trash scatters.	1997	Within	Tustin	N/A
1510	CA-ORA-001510	Prehistoric Site	Lithic scatter, cairns/rock feature, hearth/pits, and habitation debris.	1999	Within	Tustin	N/A
1525	CA-ORA-001525	Prehistoric Site	Lithic scatter, habitation debris.	1998	Within	Tustin	N/A
1526	CA-ORA-001526	Prehistoric Site	Quarry and habitation debris.	1998	Within	Tustin	N/A
1527	CA-ORA-001527	Prehistoric Site	Lithic scatter	1998	Within	Tustin	N/A
1528	CA-ORA-001528	Prehistoric Site	Lithic scatter	1998	Within	Tustin	N/A
1529	CA-ORA-001529	Prehistoric Site	Lithic scatter and habitation debris	1997	Within	El Toro	N/A
1530	CA-ORA-001530	Prehistoric Site	Lithic scatter, hearths/pits, and habitation debris.	1998	Within	El Toro	N/A
1547	CA-ORA-001547	Prehistoric Site	Lithic scatter.	1998	Within	San Juan Capistrano	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
1576	CA-ORA-001576	Prehistoric Site	Lithic scatter and habitation debris.	2000	Within	Tustin	N/A
1580	CA-ORA-001580	Prehistoric Site	Lithic scatter and habitation debris.	2000, 2001	Within	Tustin	N/A
1582	CA-ORA-001582	Prehistoric Site	Lithic scatter and habitation debris.	2001	Within	Tustin	N/A
1583	CA-ORA-001583	Prehistoric Site	Lithic scatter and habitation debris.	2001	Within	Tustin	N/A
1584	CA-ORA-001584	Prehistoric Site	Lithic scatter and habitation debris.	2001	Within	Tustin	N/A
1585	CA-ORA-001585	Prehistoric Site	Lithic scatter, hearth/pits, and habitation debris.	2001	Within	Tustin	N/A
1586	CA-ORA-001586	Prehistoric Site	Lithic scatter, hearth/pits, and habitation debris.	2001	Within	Tustin	N/A
1587	CA-ORA-001587	Prehistoric Site	Lithic scatter, burials, hearth/pits, and habitation debris.	2001	Within	Tustin	N/A
1588	CA-ORA-001588	Prehistoric Site	Lithic scatter, quarry, habitation debris.	2001	Within	El Toro	N/A
1589	CA-ORA-001589	Prehistoric Site	Lithic scatter and quarry.	2001, 2007, 2008	Within	El Toro	N/A
1590	CA-ORA-001590	Prehistoric Site	Quarry	2001	Within	El Toro	N/A
1591	CA-ORA-001591	Prehistoric Site	Lithic scatter and habitation debris.	2001	Within	El Toro	N/A
1592	CA-ORA-001592	Prehistoric Site	Lithic scatter and habitation debris.	2001, 2004	Within	El Toro	N/A
1593	CA-ORA-001593	Prehistoric Site	Lithic scatter.	1982, 2001, 2004, 2008	Within	El Toro	N/A
1594	CA-ORA-001594	Prehistoric Site	Lithic scatter and habitation debris.	2001	Within	El Toro	N/A
1595	CA-ORA-001595	Prehistoric Site	Lithic scatter and quarry.	2001, 2008	Within	El Toro	N/A
1596	CA-ORA-001596	Prehistoric Site	Lithic scatter and quarry.	2001	Within	El Toro	N/A
1609	CA-ORA-001609	Prehistoric Site	Lithic scatter and habitation debris.	2002	Within	Tustin	N/A
1611	CA-ORA-001611	Prehistoric Site	Lithic scatter and habitation debris.	2002	Within	El Toro	N/A
1615	CA-ORA-001615	Prehistoric Site	Lithic scatter and habitation debris.	2002, 2015	Within	El Toro	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
1616	CA-ORA-001616	Prehistoric Site	Lithic scatter.	2002	Within	Tustin	N/A
1634	CA-ORA-001634H	Historic Resource	"Lion Country Safari"; 1-3 story commercial buildings, animal pens.	2004	Within	El Toro, Tustin	N/A
1635	CA-ORA-001635H	Historic Resource	"PA-39 East Farmhouse Site"; privies/dumps/trash scatters, water conveyance system, walls/fences, standing structures.	2004	Within	El Toro	N/A
1651	CA-ORA-001651	Prehistoric Site	Lithic scatter	2006	Within	El Toro	N/A
1656	CA-ORA-001656	Prehistoric Site	Lithic scatter, rock shelter/cave, habitation debris.	2000	Within	Tustin	N/A
1657		Historic Resource	Engineering structure.	2006	Within	Tustin	N/A
1658	CA-ORA-001658H	Historic Resource	Roads/trails/railroad grades.	2006, 2016	Within	El Toro	N/A
1659	CA-ORA-001659H	Historic Resource	Standpipe.	2006	Within	El Toro	N/A
1660	CA-ORA-001660	Prehistoric Site	Lithic scatter.	2006	Within	El Toro	N/A
1661	CA-ORA-001661	Prehistoric Site	Lithic scatter.	2006	Within	El Toro	N/A
1662	CA-ORA-001662H	Historic Resource	Privies/dumps/trash scatters	2006	Within	El Toro	N/A
1673	CA-ORA-001673	Prehistoric Site	Lithic scatter, hearths/pits, habitation debris.	2007	Within	El Toro	N/A
1674	CA-ORA-001674	Prehistoric Site	Lithic scatter, architectural feature-floor, hearth/pits, and habitation debris.	2007	Within	El Toro	N/A
1675	CA-ORA-001675	Prehistoric Site	Hearth/pits, habitation debris.	2007	Within	El Toro	N/A
1676	CA-ORA-001676	Prehistoric Site	Lithic scatter, hearth/pits, habitation.	2007	Within	El Toro	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
1677	CA-ORA-001677	Prehistoric Site	Lithic scatter, architectural feature, hearth/pits, habitation debris.	2007	Within	El Toro	N/A
1678	CA-ORA-001678	Prehistoric Site	Lithic scatter, hearths/pits, and habitation debris.	2007	Within	El Toro	N/A
1679	CA-ORA-001679	Prehistoric Site	Hearths/pits	2007	Within	El Toro	N/A
1680	CA-ORA-001680	Prehistoric Site	Lithic scatter and habitation debris.	2007	Within	El Toro	N/A
1681	CA-ORA-001681H	Historic Resource	Foundations/structur e pads.	1981	Within	Tustin	N/A
1685	CA-ORA-001685	Prehistoric Site	Lithic scatter.	2004, 2008	Within	El Toro	N/A
1702	CA-ORA-001702	Prehistoric Site	Lithic scatter and hearth/pits.	2008	Within	El Toro	N/A
1703	CA-ORA-001703	Prehistoric Site	Hearth/pits.	2008	Within	El Toro	N/A
1704	CA-ORA-001704	Prehistoric Site	Lithic scatter, hearth/pits, and habitation debris.	2008	Within	El Toro	N/A
1705	CA-ORA-001705	Prehistoric Site	Lithic scatter, hearth/pits, habitation debris.	2007	Within	El Toro	N/A
1706	CA-ORA-001706	Prehistoric Site	Lithic scatter and hearth/pits.	2007	Within	El Toro	N/A
1707	CA-ORA-001707	Prehistoric Site	Lithic scatter and hearth pits.	2008	Within	El Toro	N/A
1720	CA-ORA-001720	Prehistoric Site	Lithic scatter.	2011	Within	Tustin	N/A
1731	CA-ORA-001731	Prehistoric Site	Lithic scatter and habitation debris.	2013	Within	Tustin	N/A
1734	CA-ORA-001734	Prehistoric Site	Lithic scatter.	2013	Within	Tustin	N/A
1754		Historic Resource	"Bommer Canyon Cattle Camp" Farm/ranch.	2015	Within	Laguna Beach	N/A
1755		Historic Resource	Historic refuse scatter.	2015	Within	El Toro	N/A
1763	CA-ORA-001763	Prehistoric Site	Lithic scatter and habitation debris.	2016	Within	El Toro	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
1765	CA-ORA-001765	Prehistoric Site	Lithic scatter, hearths/pits, habitation debris, and groundstone.	2016	Within	Black Star Canyon	N/A
1766	CA-ORA-001766	Prehistoric Site	Hearths/pits and groundstone.	2016	Within	Black Star Canyon	N/A
100020	CA-0-IF-20	Prehistoric Site	Lithic scatter and habitation debris.	1994	Within	Tustin	N/A
100021	CA-0-IF-21	Prehistoric Site	Lithic scatter.	1991	Within	Tustin	N/A
100124		Prehistoric Site	Lithic scatter.	2010	Within	El Toro	N/A
100143		Prehistoric Site	Lithic scatter.	2006	Within	El Toro	N/A
100144		Prehistoric Site	Lithic scatter.	2007	Within	El Toro	N/A
100145		Prehistoric Site	Lithic scatter.	2007	Within	El Toro	N/A
100146		Unknown Isolate	Isolate, Unknown Age.	2007	Within	El Toro	N/A
100147		Prehistoric Isolate	Metate scatter.	2009	Within	El Toro	N/A
100148		Prehistoric Isolate	Metate	2009	Within	El Toro	N/A
100149		Prehistoric Isolate	Groundstone	2009	Within	El Toro	N/A
100150		Prehistoric Isolate	Retouched flake.	1997	Within	Tustin	N/A
100162		Prehistoric Isolate	Mano	1997	Within	Tustin	N/A
100163		Historic Resource	Privies/dumps/trash scatter-ceramic fragment.	1997	Within	Tustin	N/A
100164		Historic Resource	Privies/dumps/trash scatters-ceramic fragment.	1997	Within	Tustin	N/A
100165		Historic Resource	Privies/dumps/trash scatters.	1997	Within	Tustin	N/A
100166		Historic Resource	Privies/dumps/trash scatters-faunal remains.	1997	Within	Tustin	N/A
100167		Prehistoric Isolate	Mano	1997	Within	Tustin	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
100230		Prehistoric Isolate	Basalt core.	2016	Within	Orange	N/A
100231		Prehistoric Isolate	Core reduction.	2016	Within	Black Star Canyon	N/A
100232		Prehistoric Isolate	Lithic scatter.	2016	Within	Black Star Canyon	N/A
100268		Prehistoric Isolate	Flake scraper.	N.D.	Within	El Toro	N/A
100269		Prehistoric Isolate	"Quartzite amorphous core.	N.D.	Within	El Toro	N/A
100270		Prehistoric Site	Lithic scatter.	N.D.	Within	El Toro	N/A
100271		Prehistoric Site	Lithic scatter.	N.D.	Within	El Toro	N/A
100272		Prehistoric Site	Lithic scatter.	N.D.	Within	El Toro	N/A
100273		Prehistoric Site	Lithic scatter.	N.D.	Within	El Toro	N/A
100274		Prehistoric Isolate	Chert core	N.D.	Within	El Toro	N/A
100275		Prehistoric Isolate	Flake scraper	N.D.	Within	El Toro	N/A
100278		Prehistoric Isolate	Hammerstone	1980	Within	El Toro	N/A
100297		Prehistoric Isolate	Mano.	1984	Within	El Toro	N/A
100298		Prehistoric Isolate	Metate fragment.	1984	Within	El Toro	N/A
100316		Prehistoric Isolate	Groundstone pestle.	1998	Within	El Toro	N/A
100351		Historic Isolate	Six buried sewer pipes.	2004	Within	Tustin	N/A
100352		Historic Isolate	Purex Bottle.	2004, 2007	Within	El Toro	N/A
100353		Prehistoric Isolate	Habitation debris-shells.	2004	Within	El Toro	N/A
100354		Prehistoric Isolate	Mano	2004	Within	El Toro	N/A
100355		Prehistoric Isolate	Metate.	2004	Within	El Toro	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
100356		Prehistoric Isolate	Chalcedony Core and Chert Flakes	2004	Within	El Toro	N/A
100357		Prehistoric Isolate	Abalone Tool	2004	Within	El Toro	N/A
100358		Historic Isolate	Clay Ball	2004	Within	El Toro	N/A
100371		Prehistoric Site	Habitation debris.	2006	Within	El Toro	N/A
100372		Prehistoric Isolate	Clam shell	2006	Within	El Toro	N/A
100373		Prehistoric Site	Lithic scatter.	206	Within	El Toro	N/A
100374		Prehistoric Isolate	Quartzite flake	2006	Within	El Toro	N/A
100375		Prehistoric Site	Lithic scatter.	2006	Within	El Toro	N/A
100385		Prehistoric Isolate	Grinding stone	2004	Within	El Toro	N/A
100386		Prehistoric Isolate	Grinding stone	2004	Within	El Toro	N/A
100387		Prehistoric Isolate	Bifacial mano	2004	Within	El Toro	N/A
100388		Prehistoric Isolate	Mano fragment.	2004	Within	El Toro	N/A
100389		Prehistoric Site	Lithic scatter.	2004, 2007	Within	El Toro	N/A
100390		Prehistoric Site	Lithic scatter.	2003	Within	Tustin	N/A
100391		Prehistoric Isolate	Mano.	2004	Within	El Toro	N/A
100392		Prehistoric Isolate	Chert core tool.	2007	Within	El Toro	N/A
100393		Prehistoric Isolate	Rhyolite chipping tool.	2007	Within	El Toro	N/A
100394		Prehistoric Isolate	Flake.	2007	Within	El Toro	N/A
100395		Prehistoric Isolate	Chert core.	2007	Within	El Toro	N/A
100396		Prehistoric Site	Lithic scatter.	2007	Within	El Toro	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
100397		Prehistoric Isolate	Chert core.	2007	Within	El Toro	N/A
100398		Prehistoric Isolate	Weight stone.	2005	Within	El Toro	N/A
100399		Prehistoric Isolate	Chert core.	2005	Within	El Toro	N/A
100400		Prehistoric Site	Lithic scatter	2006	Within	El Toro	N/A
100401		Prehistoric Isolate	Mano.	2006	Within	El Toro	N/A
100406		Prehistoric Isolate	Pestle.	2007	Within	Tustin	N/A
100407		Prehistoric Isolate	Metate fragments and shell.	2007	Within	Tustin	N/A
100408		Prehistoric Isolate	Habitation debris, shell fragments	2005	Within	El Toro	N/A
100409		Prehistoric Isolate	Netherstone	2005	Within	El Toro	N/A
100410		Prehistoric Isolate	Chert tested cobble	2005	Within	El Toro	N/A
100411		Prehistoric Isolate	Chert core.	2005	Within	El Toro	N/A
100412		Prehistoric Isolate	Rhyolite core frag.	2005	Within	El Toro	N/A
100413		Prehistoric Isolate	Bifacial core.	2005	Within	El Toro	N/A
100414		Prehistoric Isolate	Chert flake.	2005	Within	El Toro	N/A
100415		Prehistoric Isolate	Basalt core.	2005	Within	El Toro	N/A
100416		Prehistoric Isolate	Flake.	2005	Within	El Toro	N/A
100417		Prehistoric Isolate	Flake and core/tested cobble.	2005	Within	El Toro	N/A
100418		Prehistoric Isolate	Chert core.	2005	Within	El Toro	N/A
100419		Prehistoric Isolate	Habitation debris-shell.	2005	Within	El Toro	N/A
100420		Prehistoric Isolate	Hammerstone.	2005	Within	El Toro	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
100421		Prehistoric Isolate	Flake.	2005	Within	El Toro	N/A
100422		Prehistoric Isolate	Crushed shell.	2005	Within	El Toro	N/A
100423		Prehistoric Isolate	Chert.	2005	Within	El Toro	N/A
100424		Prehistoric Isolate	Mano	2005, 2008	Within	El Toro	N/A
100425		Prehistoric Isolate	Mano	2005	Within	El Toro	N/A
100426		Prehistoric Isolate	Habitation debris-shell	2005	Within	El Toro	N/A
100427		Prehistoric Isolate	Chert.	2005	Within	El Toro	N/A
100428		Prehistoric Isolate	Mano	2005	Within	El Toro	N/A
100429		Prehistoric Site	Lithic scatter.	2005	Within	El Toro	N/A
100430		Prehistoric Isolate	Core fragment	2005	Within	El Toro	N/A
100431		Multi-component Isolate	Flake tool and bone fragments.	2005	Within	El Toro	N/A
100432		Prehistoric Isolate	Lithic scatter, bone fragments, shell.	2005	Within	El Toro	N/A
100433		Prehistoric Isolate	Mano	2005	Within	El Toro	N/A
100434		Prehistoric Isolate	Metate.	2005, 2008	Within	El Toro	N/A
100435		Prehistoric Isolate	Microblade core.	2005	Within	El Toro	N/A
100436		Prehistoric Isolate	Chert core.	2005	Within	El Toro	N/A
100437		Prehistoric Isolate	Core.	2005	Within	El Toro	N/A
100450		Prehistoric Isolate	Pestle.	1990	Within	El Toro	N/A
100451		Prehistoric Isolate	Lithic scatter.	1986	Within	El Toro	N/A
100453		Prehistoric Isolate	Flake.	1994	Within	El Toro	N/A
100454		Prehistoric Isolate	Millingstone.	1986	Within	El Toro	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
100455		Prehistoric Site	Lithic scatter.	1986	Within	El Toro	N/A
100456		Prehistoric Isolate	Flake.	1986	Within	El Toro	N/A
100457		Prehistoric Isolate	Mano fragment.	1986	Within	El Toro	N/A
100465		Prehistoric Isolate	Mano fragment.	1984	Within	El Toro	N/A
100466		Prehistoric Isolate	Metate fragment.	1984	Within	El Toro	N/A
100468		Prehistoric Isolate	Pestle fragment.	1988	Within	Tustin	N/A
100469		Prehistoric Isolate	Groundstone fragment.	1990	Within	Tustin	N/A
100477		Prehistoric Isolate	Lithic scatter.	2009	Within	El Toro	N/A
100480		Prehistoric Isolate	Mano fragment	2011	Within	Tustin	N/A
100481		Prehistoric Isolate	Mano fragment.	2011	Within	Tustin	N/A
100482		Prehistoric Isolate	Metate fragment.	2011	Within	Tustin	N/A
100483		Prehistoric Isolate	Metate fragment.	2011	Within	Tustin	N/A
100484		Prehistoric Isolate	Mano fragment.	2011	Within	Tustin	N/A
100493		Prehistoric Isolate	Flake.	1982	Within	El Toro	N/A
100496		Prehistoric Isolate	Mano fragment.	1982	Within	El Toro, Tustin	N/A
100498		Prehistoric Site	"Other".	2015	Within	El Toro	N/A
157788	37153	Historic Resource	1-3 story commercial building, Utilitarian style, "Irvine Blacksmith Shop": c. 1915-1916.	1985	Within	Tustin	7K
161710	41097	Historic Resource	Farm/ranch, Adobe building/structure, "Rancho San Joaquin Headquarters": 1868.	1977	Within	Tustin	7L
161824	66351	Historic Resource	Trans Housing: ?		Within	Tustin	6Y

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161828	66414	Historic Resource	Trans Housing: ?		Within	Tustin	6Y
161858		Historic Resource	Single family property, ancillary building, landscape architecture, farm/ranch, "Irvine Agricultural Headquarters Complex": c. 1890s.	1982	Within	Tustin	N/A
161866	70070	Historic Resource	Canal/irrigation ditch, "Bee Canyon Wash Canal / Ditch": c. 1945.	1990	Within	El Toro	6Y
161867		Historic Resource	Quonset, "South Coast Gun Club": c. 1945.	1990	Within	El Toro	N/A
161867	70071	Historic Resource	South Coast Gun Club: 1945.		Irvine	El Toro	6Y
161868	70072	Historic Resource	Ancillary building, wood frame, "Irvine Ranch Shed": c. pre 1945.	1990	Within	El Toro	6Y
161869	70073	Historic Resource	Trees, "Eucalyptus Tree Windbreaks": c. 1888-1900.	1990	Within	El Toro	6Y
161870	70074	Historic Resource	Single family property, Venacular style, "East Irvine Post Office, Irvine General Store": 1904.	1990	Within	Tustin	6Y
161871	70075	Historic Resource	Hotel, 1-3 story commercial building, Craftsman style, "Irvine Hotel": 1913.	1990	Within	El Toro	6Y
161871	70075	Historic Resource	Irvine Hotel: 1913		Within	Tustin	6Y
161872	70077	Historic Resource	Ancillary building, 1-3 story commercial building, Vernacular style, "Agricultural Office for Sea Tree Nurseries": 1930.	1991	Within	Tustin	6Y
161872	70077	Historic Resource	Agricultural Shed: 1930.		Within	Tustin	6Y

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161873	70078	Historic Resource	Single family residence, Vernacular style, "Worker's Cottage": 1914.	1991, 2006	Within	Tustin	6Y
161874	70079	Historic Resource	Single family property,Vernacular style, "Worker's Cottage": 1900.	1991, 2006	Within	Tustin	6Y
161875	70080	Historic Resource	1-3 story commercial building/motel, Art Deco, "Irvine Garage": 1923.	1991	Within	Tustin	6Y
161877	70082	Historic Resource	Val Verde Sportsmen's Club: 1924.		Within	El Toro	6Y
161878	70311	Prehistoric Site	Christ College Site		Within	Tustin	1S
161889	72754	Historic Resource	1-3 story commercial building, "Irvine Bean & Growers Assn Bldg": 1895 and 1947.	1984, 1991	Within	Tustin	7L
161894	73120	Historic Resource	Single family property, hotel/motel, 1-3 story commercial building, industrial buildings, "Old Town Irvine": 1895.	1991	Within	Tustin	7L
162164	85030	Historic Resource	Buffalo Ranch/ Urnabus Square:1962.		Irvine	Tustin	2S2
162270	90011	Historic Resource	Monument, "Barton Mound": unknown.	1935, 1980	Within	Tustin	7L
162289	90898	Historic Resource	Adobe, Mexican style, "Foundation of Rancho San Joaquin Adobe": c. 1838-1876.	1976, 1983, 1984	Within	Tustin	7L
162290	90900	Historic Resource	Single family property, educational building, farm/ranch, Frame building, "Irvine Historical Society Museum": 1868.	1978, 1983	Within	Tustin	7L

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
162325	94367	Historic Resource	Single family property, Vernacular style, "Spencer House": 1915.	1982	Within	Tustin	6Y
162326	94368	Historic Resource	The Echberria Home: 1925.		Irvine	Tustin	6Y
176545	117187/117197	Historic Resource	Military property, "Presidential Support Area Tower and Hangar": 1945 and 1942.	1974	Within	El Toro	N/A
176636		Historic Resource	Lake/river/reservoir, "Lambert Reservoir": c. 1930.	2001	Within	El Toro	N/A
176637		Historic Site	Historic refuse scatter	2001	Within	El Toro	N/A
176638		Historic Site	Historic refuse scatter	2001 2004	Within	El Toro	N/A
176639		Historic Resource	Farm/ranch and residential debris: pre 1949.	2001	Within	El Toro	N/A
176640		Historic Resource	Single family property: c. 1930s.	2001	Within	El Toro	N/A
176641		Historic Resource	Industrial building, farm/ranch, agricultural building, "Irvine Valencia Growers-Packing House": 1927.	2001	Within	Tustin	N/A
176748		Historic Resource	Canal/aqueduct, "The Highline Canal": c.1933.	2003	Within	El Toro, Orange, Tustin	6Z
176777		Historic Resource	Single family property, Vernacular ranch style, "Lambert Ranch": 1915.	2004	Within	El Toro	6Z
176796		Historic Resource	Military property, Modern style, "Married Housing, MCAS, El Toro": 1947.	1997	Within	El Toro	"6"
176797		Historic Resource	Military property, Modern style, "Officers' Housing, MCAS, El Toro": 1964.	1997	Within	El Toro	"6"

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
176798		Historic Resource	Military property, single family properties, Modern, "Capehart Married Housing, MCAS, El Toro": 1973.	1997	Within	El Toro	"6"
176799		Historic Resource	Military property, single family properties, Ranch style, "Wherry Village, MCAS, El Toro": 1954.	1997	Within	El Toro	"6"
176808		Historic Resource	1-3 story commercial building, "Frances Paking House": 1916.	1977, 2006	Within	Tustin	S1
176838		Historic Resource	Religious building, Spanish Eclectic, "Irvine Community Church": 1952.	2005	Within	Tustin	6Z
176945		Historic Resource	1-3 story commercial building, Craftsman style, "Irvine General Store": 1911.	1990	Within	Tustin	N/A
177038	117199	Historic Resource	Military property, "El Toro MCAS": 1943.	2010	Within	El Toro	N/A
177521	N/A	Historic Resource	1-3 story commercial building, Modern Style, "Quality Packaging": c. 1968.	2014	Within	Tustin	N/A
177532	N/A	Historic Resource	Religious building, Modern, "Light of Christ Lutheran Church": c. 1968.	2014	Within	Tustin	N/A
177617	N/A	Historic Resource	Community center/social hall, Ranch style, c. 1985-1986.	2015	Within	Tustin	6Z
179839		Historic Resource	Dam, "Laguna Canyon Dam & Reservoir": 1938.	2003	Within	Tustin	N/A

Primary P-30-	Trinomial/ HRI	Resource Type	Resource Description	Date Recorded	Distance from PA	Quad	NRHP/ CRHP Status Code
179855		Historic Resource	Railroad tracks, "Burlington Northern & Santa Fe R. R. (BNSF) tracks": 1887.	2002	Within	Tustin	CRHP eligible
	170111	Historic Resource	Tustin USAR Center : 1963.		Irvine	Tustin	6Y

APPENDIX E

Greenhouse Gas Emissions Forecasts Report for the City of Irvine Draft Climate Action and Adaptation Plan

Memo

1230 Columbia St, Suite 440
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Date: August 8, 2023

To: City of Irvine – CAAP Project Team

From: Poonam Boparai, Fred Hochberg, Hannah Kornfeld, and Andrew Martin (Ascent)

Subject: Greenhouse Gas Emissions Forecasts Report for the City of Irvine Climate Action and Adaptation Plan

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INTRODUCTION

The City of Irvine (City) is developing a Climate Action and Adaptation Plan (CAAP) to reduce greenhouse gas (GHG) emissions and prepare the city for the impacts of climate change. This technical memorandum provides the results of these forecasts, and describes the methods, assumptions, emissions factors, and data sources used to prepare them. The GHG emissions forecasts provide a foundation for the forthcoming steps of the City's climate action planning process, including establishing City-specific targets for reducing emissions levels, calculating additional reductions in emissions levels needed to meet the City's targets (also referred to as the emissions "gap"), and formulating and quantifying measures the City can take to meet its targets and close the gap.

ORGANIZATION OF THIS MEMORANDUM

This memorandum consists of two parts:

- Section 1: Summary of Inventory Results presents an overview of the City's 2019 GHG emissions inventories for community-wide activities and municipal operations.
- Section 2: Greenhouse Gas Emissions Forecasts summarizes the forecasted GHG emissions under "business-as-usual" (BAU) and legislative-adjusted BAU scenarios for years 2030, 2035, 2040, and 2045. The first scenario, called the BAU scenario, does not account for GHG emissions reductions resulting from laws and regulations adopted by local, regional, State, or federal agencies; it illustrates how much emissions would increase due to population and economic growth if no actions to reduce emissions were taken. The second scenario, a legislative-adjusted BAU scenario, shows emissions reductions from laws and regulations enacted by regional, State, and federal agencies; it does not reflect City actions to reduce GHG emissions. Further reductions in GHG emissions from City actions will be evaluated as a next step in the process of preparing the CAAP.

1 SUMMARY OF INVENTORY RESULTS

1.1 2019 COMMUNITY-WIDE INVENTORY

According to the *Greenhouse Gas Emissions Inventory Report for the City of Irvine Climate Action and Adaptation Plan* (2019 Inventory Report), the community generated approximately 2,247,593 metric tons of carbon dioxide equivalent ($MTCO_2e$) in 2019. Figure 1 and Table 1 present 2019 community-wide emissions by sector.

The largest emissions-generating sectors include on-road transportation and nonresidential and residential building energy. The 2019 emissions level serves as the baseline to forecast emissions and set reduction targets in the CAAP. GHG emissions from stationary sources regulated by State and federal agencies (e.g., sources covered by the Cap-and-Trade program) and outside the City's jurisdiction and influence (e.g., UC Irvine, County-operated landfill) are discussed in the 2019 Inventory Report but not reflected in the community-wide emissions total for 2019.

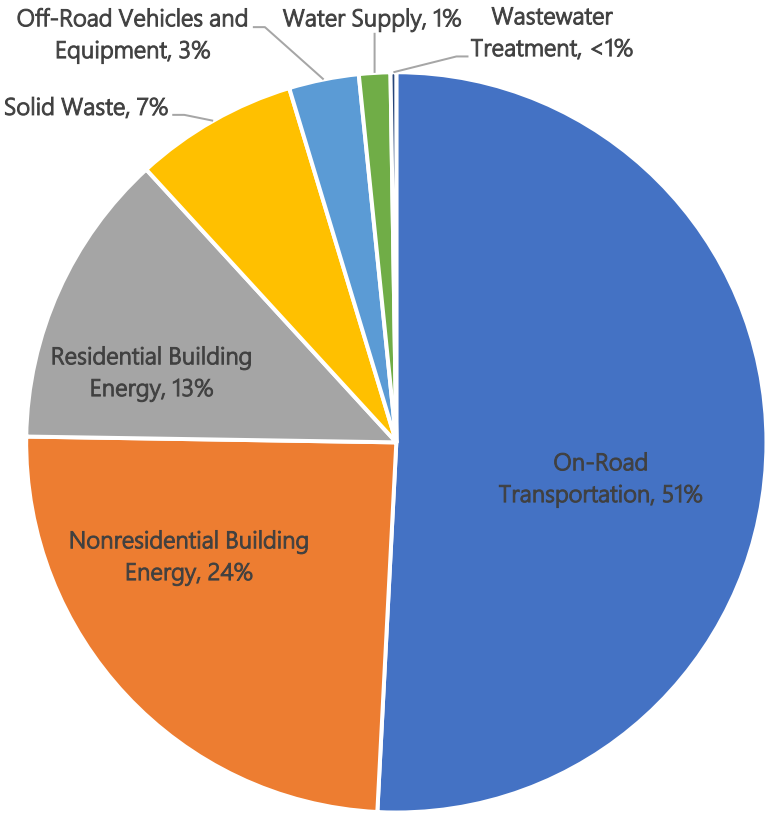

Figure 1. 2019 Community-wide GHG Emissions Inventory in the City of Irvine
Note: Totals are rounded to the nearest percent.

Table 1. 2019 Community-wide GHG Emissions Inventory in the City of Irvine

Sector	GHG Emissions ($MTCO_2e$)	Percent of Total
On-Road Transportation	1,140,206	51
Nonresidential Building Energy	550,138	24
Residential Building Energy	291,405	13
Solid Waste	160,626	7
Off-Road Vehicles and Equipment	68,756	3
Water Supply	30,798	1
Wastewater Treatment	5,665	<1
Total	**2,247,593**	**100**

Notes: Totals may not sum exactly due to independent rounding to the nearest percent. GHG = greenhouse gases; $MTCO_2e$ = metric tons of carbon dioxide equivalent; NA = not applicable.

Source: Ascent Environmental 2023.

1.2 2019 MUNICIPAL OPERATIONS INVENTORY RESULTS

Based on the modeling conducted, the City's municipal operations generated approximately 18,566 $MTCO_2e$ in 2019. The employee commute and buildings and facilities sectors generated approximately 81 percent of total emissions. The 2019 inventory serves as the municipal operations GHG emissions baseline for the CAAP to forecast emissions and set emissions reductions targets. Table 2 and Figure 2 present the results of the City's 2019 municipal operations GHG emissions inventory by sector, and a description of each emissions sector, including key sources of emissions, is provided in further detail in *Greenhouse Gas Emissions Inventory Report for the City of Irvine Climate Action and Adaptation Plan*.

Table 2. 2019 City of Irvine Municipal Operations GHG Emissions Inventory

Sector	GHG Emissions ($MTCO_2e$)	Percent of Total
Buildings and Facilities	12,003	65
Employee Commute	3,032	16
Wastewater Treatment	1,144	6
Vehicle Fleet	1,127	6
Streetlights and Traffic Signals	1,097	6
Solid Waste	159	1
Water Supply	4	<1
Total	**18,566**	**100**

Notes: Totals may not sum exactly due to independent rounding. GHG = greenhouse gases; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

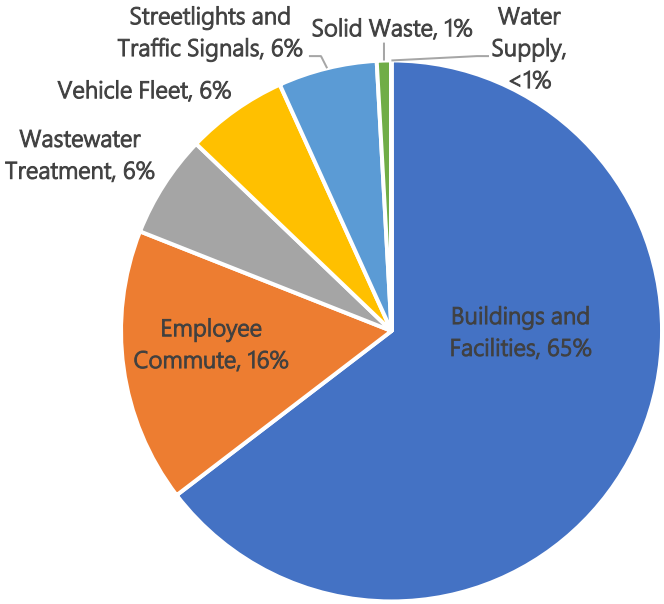

Figure 2. 2019 City of Irvine Municipal Operations GHG Emissions Inventory

2 GREENHOUSE GAS EMISSIONS FORECASTS

2.1 COMMUNITY FORECAST RESULTS

The BAU GHG emissions forecasts provide an assessment of how emissions generated by community activities will change over time without further local, State, or federal action. In addition to accounting for the city's growth under a BAU scenario, an adjusted BAU forecast was prepared, which includes adopted legislative and regulatory actions at the State and federal levels that would affect emissions without any local action (referred to hereafter as 'legislative-adjusted BAU'). These include regulatory requirements to increase vehicle fuel efficiency and increase renewable energy sources in grid electricity portfolios. It is important to note that the legislative-adjusted BAU emissions forecasts only include emissions reductions associated with implementation of adopted federal and State legislation and regulations and do not include goals established by executive orders or targets established by federal or State agencies. These forecasts provide the City with the information needed to focus efforts on emissions sectors and sources that have the greatest opportunities for GHG emissions reductions.

The GHG emissions forecasts for 2030, 2035, 2040, and 2045 are aligned with the reduction targets for statewide emissions levels established in State law, including the 2030 target set forth in Senate Bill (SB) 32 and the 2045 target set forth in Assembly Bill (AB) 1279:

- SB 32 (2016)
  - reduce statewide GHG emissions to 40% below 1990 levels by 2030.
- AB 1279 (2022):
  - achieve net zero GHG emissions statewide as soon as possible, but no later than 2045, and maintain net negative emissions thereafter; and
  - ensure that by 2045, statewide anthropogenic greenhouse gas emissions are reduced to at least 85% below the 1990 levels.

Both the BAU and legislative-adjusted BAU emissions forecasts were based on population and employment from the from the City's land use database and the California State University, Fullerton, Center for Demographic Research Orange County Projections. Population and employment are expected to increase by 21 and 28 percent, respectively, from 2019 to 2045. These growth factors were used to forecast emissions for most sectors. Additional information regarding the growth factors used for each sector is included in the following sections. Annual vehicle miles traveled (VMT) projections were developed using the origin-destination method using data from the Irvine Transportation Analysis Model (ITAM) Traffic Model 2021. Annual VMT by 2045 is projected to increase by 3.2 percent from 2019. VMT projections were used to scale emissions from the on-road transportation sector. Table 3 shows growth in population, employment, and annual VMT from 2019 to 2045.

Table 3. City of Irvine Community Demographic and Vehicle Miles Traveled Forecasts

Forecast Factor	2019	2030	2035	2040	2045
Population	291,124	317,246	329,119	340,993	352,866
Employment	250,954	280,541	293,989	307,438	320,886
Annual VMT	2,910,428,375	2,950,103,309	2,968,137,370	2,986,171,431	3,004,205,493

Notes: VMT = vehicle miles traveled.

Source: City of Irvine 2021; California State University, Fullerton 2018.

Table 4 shows baseline emissions in 2019 and BAU emissions forecasts for 2030, 2035, 2040, and 2045. Results for 2035 and 2040 were derived from the results for 2030 and 2045 using linear interpolation.

Table 4. City of Irvine Community GHG Emissions Inventory and BAU Forecasts ($MTCO_2e$)

Sector	2019	2030	2035	2040	2045
On-Road Transportation	1,140,206	1,155,749	1,162,814	1,169,879	1,176,944
Nonresidential Building Energy	550,138	549,886	576,246	602,607	628,967
Residential Building Energy	291,405	298,338	309,504	320,670	331,836
Solid Waste	160,626	175,038	181,590	188,141	194,692
Off-Road Vehicles and Equipment	68,756	76,077	82,144	88,210	94,276
Water Supply	30,798	43,202	44,819	46,435	48,052
Wastewater Treatment	5,665	6,159	6,395	6,631	6,866
Total	**2,247,593**	**2,304,450**	**2,363,511**	**2,422,573**	**2,481,634**
Percent Change from 2019 Levels	—	3%	5%	8%	10%

Notes: Total may not sum exactly due to independent rounding. BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

Legislative-adjusted BAU emissions forecasts were prepared using the same demographic and VMT data that were used for the BAU forecasts, while accounting for regional, State, and federal laws and regulations that would affect local emissions. These forecasts provide the City with an understanding of future community emissions to inform the identification of emissions reduction measures developed to meet GHG targets. A summary of the legislative reductions applied is provided in Table 5.

Table 5. Legislative Reductions Summary

Source	Legislative Reduction	Description	Sectors Applied
Regional	Orange County Power Authority (OCPA)	In the forecast years (i.e. all future years after 2019), approximately 62 percent of City of Irvine customers will take service on OCPA's Renewable Choice plan (100 percent renewable), 15 percent on the Smart Choice Plan (69 percent renewable), and 1 percent on the Basic Choice plan (38 percent renewable). In total, this represents 77 percent of City of Irvine customers being served by OCPA, with the remaining 23 percent served by Southern California Edison. (Kramer 2023 and City of Irvine 2023: 2). Totals may not sum exactly due to independent rounding.	Building Energy
State	California's Building Energy Efficiency Standards (2022 Title 24, Part 6)	Effective January 1, 2023, requires new residential and nonresidential buildings in California to comply with energy efficiency standards established by CEC. The 2022 standards establish energy performance requirements that encourage energy efficient approaches to building decarbonization by emphasizing electric heat pumps for space heating and water heating and extending the benefits of photovoltaic and battery storage systems and other demand flexible technology to work in combinations with heat pumps.	Building Energy
State	IRP (Integrated Resource Planning)	California Public Utilities Commission proceeding requiring California energy utilities to submit resource plans that reduce their carbon emissions below their share of 38 million metric tons (MMT) of total statewide electric sector emissions by 2030 and 30 MMT by 2035 (CPUC 2022: 8).[1]	Building Energy, Transportation
State	SB 100	Requires that all retail electricity sold in California must come from renewable or zero-carbon resources by 2045.	Building Energy, Transportation
State	SB 1020 (Clean Energy, Jobs, and Affordability Act of 2022)	Requires that eligible renewable energy resources and zero-carbon resources supply 90% of all retail sales of electricity to California end-use customers by December 31, 2035, 95% of all retail sales of electricity to California end-use customers by December 31, 2040, 100% of all retail sales of electricity to California end-use customers by December 31, 2045, and 100% of electricity procured to serve all state agencies by December 31, 2035.	Building Energy
State	Advanced Clean Car Standards I and II	Requires all new passenger cars, trucks and SUVs sold in California to meet increasingly stringent requirements regarding zero emissions technologies and emissions standards.	On-Road Vehicles
State	Truck and Bus Regulation	Requires diesel trucks and buses that operate in California to be upgraded to reduce GHG emissions.	On-Road Vehicles
Federal	Fuel Efficiency Standards for Medium- and Heavy-Duty Vehicles	Establishes fuel efficiency standards for medium- and heavy-duty engines and vehicles.	On-Road Vehicles
Federal	EPA Off-Road Compression-Ignition Engine Standards	Establishes standards for phasing of EPA diesel engine tiers for off-road compression-ignition equipment.	Off-Road Vehicles and Equipment

Notes: CAFE = Corporate Average Fuel Economy; CEC = California Energy Commission; EPA = U.S. Environmental Protection Agency; GHG = greenhouse gas; OCPA = Orange County Power Authority; SB = Senate Bill.

Source: Ascent Environmental in 2023.

[1] IRP also requires that utilities submit a second, lower-carbon resource plan to meet statewide carbon goals. This second plan uses targets of 30 and 25 MMT in 2030 and 2035, respectively. However, this analysis uses the 38 MMT in 2030 and 30 MMT in 2035 plan, as stated in Table 5, as a more conservative estimate of possible electric sector emissions reductions.

The city's legislative-adjusted BAU emissions would decrease by approximately 60 percent between 2019 and 2045, as shown below in Table 6 and Figure 3. Results for 2035 and 2040 were derived from the results for 2030 and 2045 using linear interpolation. Figure 3 also shows the emissions trend that would occur without anticipated legislative reductions, accounting only for population, employment, and VMT changes (i.e., BAU emissions). Without the legislative reductions, emissions would be approximately 178 percent higher in 2045 compared to 2045 emissions levels in the legislative-adjusted BAU forecast. Emissions forecasts for each sector are discussed in detail in the following sections.

Table 6. City of Irvine Community GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts ($MTCO_2e$)

Sector	2019	2030	2035	2040	2045
On-Road Transportation	1,140,206	793,628	602,306	410,984	219,662
Nonresidential Building Energy	550,138	271,904	243,504	215,105	186,705
Residential Building Energy	291,405	210,707	203,991	197,276	190,561
Solid Waste	160,626	175,038	181,590	188,141	194,692
Off-Road Vehicles and Equipment	68,756	76,077	82,144	88,210	94,276
Water Supply	30,798	9,973	6,649	3,324	0
Wastewater Treatment	5,665	6,173	6,399	6,625	6,851
Total	**2,247,593**	**1,543,501**	**1,326,583**	**1,109,665**	**892,747**
Percent Change from 2019 Levels	—	-31%	-41%	-51%	-60%

Notes: Total may not sum exactly due to independent rounding. BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

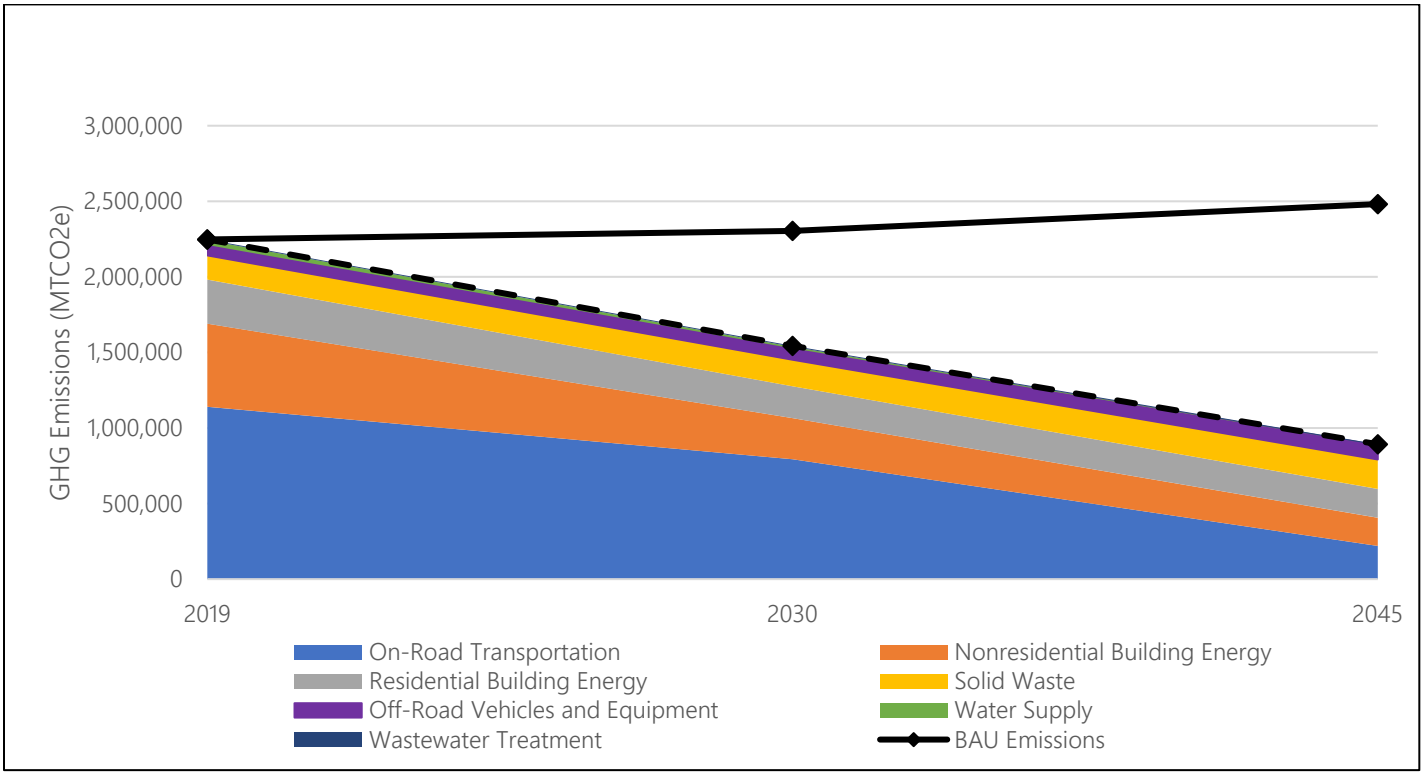

Figure 3 City of Irvine Community GHG Emissions Inventory and Forecasts

2.1.1 Building Energy

BUILDING ENERGY ASSUMPTIONS

Building energy emissions in the city result directly from onsite combustion of natural gas and indirectly from electricity consumption. The combustion of fossil fuels (i.e., diesel, liquid propane gas [LPG], and natural gas) in backup generators also contributes to the city's building energy emissions. Southern California Edison (SCE) is the electricity provider and Southern California Gas Company (SoCalGas) is the natural gas provider in the city. Orange County Power Authority (OCPA) is a community choice aggregation agency established to source clean and renewable electricity in Orange County including the City of Irvine.

Electricity Emissions Factors

Emissions factors for electricity vary depending on the utility (SCE or OCPA), the carbon content of the different portfolios that each utility offers its customers, and year. To calculate City's overall electric emissions factor for a given year, a weighted average of OCPA emissions and SCE emissions was taken, accounting for participation rates and portfolio offerings across those two utilities shown in Table 5 of this memorandum. This weighted average emissions factor was then applied to all electric usage. Table 7 below shows how this calculation was performed.

Table 7: Calculation of Weighted Emissions Electric Emissions Factor

Year	Participation rates by utility and power portfolio					MT CO_2e / MWh by utility and power portfolio				
	SCE	OCPA Basic	OCPA Smart	OCPA 100%	Total	SCE	OCPA Basic	OCPA Smart	OCPA 100%	Weighted Average
2019	100%	0%	0%	0%	100%	0.208	NA	NA	NA	0.208
2030	23%	1%	15%	62%	100%	0.141	0.244	0.094	0	0.048
2045	23%	1%	15%	62%	100%	0	0	0	0	0

Notes: Total may not sum exactly due to independent rounding. $MTCO_2e$ = metric tons of carbon dioxide equivalent. MWh = megawatt-hour. NA = Not Applicable.

Source: Ascent Environmental 2023.

SCE's emissions factor for 2019 was derived from its Power Content Label, which shows 16.1 percent natural gas and 32.6 percent from unspecified sources of power (unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source: SCE 2019). In total, this implies that SCE's portfolio is 48.7 percent carbon-emitting power.[2] This 48.7 percent was then multiplied by California Air Resources Board (CARB) emissions factor for Mandatory Reporting of Greenhouse Gases (MRR) of 0.428 MT CO_2e/MWh, which reflects the emissions from unspecified power, and additionally is similar to the emission factor from an average single-cycle natural gas power plant (CARB 2018: 16).

Emissions factors for 2030 were derived from SCE and OCPA's IRP electricity resource plans as described in Table 5. In the case of SCE, its 2030 IRP plan shows 67 percent GHG-free power (SCE 2022). This corresponds to 33 percent emitting power from natural gas or unspecified power and thus 0.141 MT CO_2e/MWh based on the CARB emissions factor of 0.428 MT CO_2e/MWh shown above.

[2] This memorandum uses "carbon-emitting power" as a shorthand to refer to the sum of power generated by natural gas-fired generators and unspecified power.

In the case of OCPA, a separate emission factor for each portfolio (Basic, Smart, and 100%) was calculated. A percentage of carbon-free power for each portfolio was estimated by taking OCPA's overall ratio of carbon-free energy to renewable energy in 2030 in its IRP plan (113 percent, per OCPA 2022) and multiplying that ratio by each portfolio's percentages of renewable content. This percentage of carbon-free power was then subtracted from 100 percent to yield a percentage of carbon-emitting power. Finally, this percent of carbon-emitting power was multiplied by 0.428 MT CO_2e/MWh to yield an emissions factor. Table 8 below shows the results of this calculation.

Table 8: Derivation of 2030 OCPA emissions factors

	Basic	Smart	100% Renewable
Percent Renewable	38%	69%	100%
Percent Carbon-Free	43%	78%	100%
Percent Carbon-Emitting Power	57%	22%	0%
Emissions Factor (MT CO2e / MWh)	0.244	0.094	0

Source: Ascent Environmental 2023.

Natural Gas Emissions Factors

Natural gas emissions are based on emissions factors obtained from The Climate Registry's (TCR's) 2020 Default Emission Factors, which are estimated to be 11.7 pounds of carbon dioxide equivalent per therm (lb CO_2e/therm) for stationary combustion in buildings and 11.6 lb CO_2e/therm for electricity generation in backup generators (TCR 2020). Emissions factors associated with natural gas combustion are not anticipated to change over time, as there are no legislative actions that would reduce the carbon intensity of natural gas.

Diesel Emissions Factors

Emissions from diesel fuel used to power backup generators are based on emissions factors from TCR, which are estimated to be 22.6 pounds of carbon dioxide equivalent per gallon (lb CO_2e/gal). Emissions factors associated with diesel combustion are not anticipated to change over time, as there are no legislative actions that would reduce the carbon intensity of diesel.

Gasoline Emissions Factors

Emissions from gasoline fuel used to power backup generators are based on emissions factors also from TCR, which are estimated to be 19.3 lb CO_2e/gal. Emissions factors associated with gasoline combustion are not anticipated to change over time, as there are no legislative actions that would reduce the carbon intensity of gasoline.

Energy Efficiency and Fuel Source

Future energy use was adjusted to reflect increased emissions-intensity stringency under California's Building Energy Efficiency Standards (California Code of Regulations Title 24 Part 6, hereafter referred to as "Title 24"). Title 24 standards apply to new residential and nonresidential construction. The 2019 Title 24 standards apply to projects constructed after January 1, 2020, and the 2022 Title 24 standards will apply after January 1, 2023. To estimate adjusted future energy consumption resulting from Title 24 requirements in new construction, electricity- and natural gas-specific adjustment factors were calculated using the difference in the average energy use in residential and nonresidential buildings between those built to 2019 Title 24 standards and those built to 2022 Title 24 standards. Adjustment factors were calculated using data available from the California Energy Commission (CEC) that were developed for the 2022 Title 24 standards. In addition to accounting for Title 24 requirements by land use type (i.e., residential and nonresidential), CEC also developed estimates for energy usage rates by climate zone, and the city's climate zone (Zone 8) was used for the residential buildings analysis. Climate zone-specific data for nonresidential buildings were unavailable; therefore, nonresidential adjustment factors relied on statewide averages.

The adjustment factors (specific to both building type and energy type) were applied to the BAU growth in energy use to estimate the energy consumption and associated GHG emissions of future development with legislative adjustments. It is important to note that although average electricity use in new residential buildings is anticipated to rise (due to an increase in electrical demand associated with electric appliances installed instead of natural gas appliances), emissions from new residential buildings are expected to be lower than they would be under 2019 Title 24 as a result of overall lower building emissions intensities (due to lower emissions factors associated with electricity compared to natural gas).

BUILDING ENERGY RESULTS

Emissions from future electricity, natural gas, and backup generator (i.e., diesel, natural gas, and gasoline) use were estimated by multiplying anticipated energy use by forecasted emissions factors. Future energy use was forecasted in two parts. First, energy use was scaled by population and employment growth factors detailed above. Second, energy emissions factors were adjusted as described in the previous section. Natural gas, diesel, and gasoline emissions factors were not adjusted, as the emissions intensity of these energy sources is anticipated to stay constant. The assumptions for future electricity emissions factors are described below. Table 9 summarizes the scaling factors and legislative reductions used to forecast building use by energy type.

Table 9. Building Energy Emissions Forecast Methods by Energy Type

Energy Type	Forecast Methods	
	Scale Factor	Applied Legislative Reductions
Electricity	Scaled by population growth for residential building energy; scaled by employment growth for nonresidential building energy.	Emissions factors derived from SCA and OCPA IRP plans. Accounts for Title 24 energy efficiency gains in new construction based on the best available data for average building energy efficiency.
Natural Gas		Accounts for Title 24 energy efficiency gains in new construction based on the best available data for average building energy efficiency.
Backup Generators	Scaled by employment growth.	None.

Notes: OCPA = Orange County Power Authority; RPS = Renewables Portfolio Standard; SCE = Southern California Edison.

Source: Ascent Environmental 2023.

RESIDENTIAL BUILDING ENERGY

Between 2019 and 2045, emissions from residential building energy would decrease by approximately 35 percent from 291,405 to 190,561 $MTCO_2e$ with legislative adjustments, despite overall population growth of approximately 25 percent over the same time. Table 10 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions from the residential building energy sector by energy type for 2030, 2035, 2040, and 2045. Results for 2035 and 2040 were derived from the results for 2030 and 2045 using linear interpolation.

Table 10. Residential Building Energy GHG Emissions Inventory and Legislative-Adjusted BAU Emissions Forecasts (Annual $MTCO_2e$)

Energy Type	2019	2030	2035	2040	2045
Electricity	116,584	29,451	19,634	9,817	0
Natural Gas	174,820	181,255	184,357	187,459	190,561
Total	**291,405**	**210,707**	**203,991**	**197,276**	**190,561**

Notes: Totals may not sum exactly due to independent rounding. BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

NONRESIDENTIAL BUILDING ENERGY

Between 2019 and 2045, emissions from nonresidential building energy would decrease by approximately 66 percent from 550,139 to 187,371 $MTCO_2e$ with legislative adjustments, despite overall employment growth of approximately 33 percent over the same time. Increased natural gas and backup generator emissions would be offset by reduced emissions from electricity in 2045. Table 11 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions for the nonresidential building energy sector by energy type for 2030, 2035, 2040, and 2045. Results for 2035 and 2040 were derived from the results for 2030 and 2045 using linear interpolation.

Table 11. Nonresidential Building Energy GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Energy Type	2019	2030	2035	2040	2045
Electricity	385,130	98,767	65,845	32,922	0
Natural Gas	160,501	170,317	174,705	179,092	183,480
Backup Generators	4,507	3,401	3,564	3,728	3,891
Total	**550,139**	**272,486**	**244,114**	**215,743**	**187,371**

Notes: Totals may not sum exactly due to independent rounding. BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

2.1.2 Transportation

ON-ROAD TRANSPORTATION

Between 2019 and 2045, GHG emissions from on-road vehicles would decrease by approximately 81 percent from 1,140,206 to 219,662 $MTCO_2e$, accounting for an increase in VMT of approximately 4 percent, and future vehicle emissions factors modeled in California Air Resources Board's (CARB's) Emissions FACtor (EMFAC2021) model. VMT projections were developed using the origin-destination method and data from the ITAM model. With respect to the legislative adjustments included in this forecast, State and federal laws and regulations incorporated in the on-road transportation sector include the Pavley Clean Car Standards Advanced Clean Car I and II (ACC I and II) Standards, and fuel efficiency standards for medium- and heavy-duty vehicles. Pavley Clean Car Standards and fuel efficiency standards are included in EMFAC2021's emissions factor estimates and forecasts. Vehicle fleet assumptions were adjusted to account for the effect of Advanced Clean Car II (ACC II) Standards, including assumed new sales of battery electric vehicles and plug-in hybrids (CARB 2022: 5). The Low Carbon Fuel Standard was excluded in EMFAC2021 forecasts because the emissions benefits originate from upstream fuel production and do not directly reduce vehicle tailpipe emissions that affect the city's GHG emissions forecasts. Table 12 summarizes the scaling factors and legislative reductions used to forecast on-road transportation emissions.

Table 12. On-Road Transportation Emissions Forecast Methods

Source	Forecast Methods	
	Scale Factor	Applied Legislative Reductions
On-Road Transportation	Scaled by VMT estimates provided by Iteris.	EMFAC2021 forecasts vehicle fleet distributions by vehicle type and the emissions factors anticipated for each vehicle category based on both vehicle emissions testing and approved legislative reductions. EMFAC2021's forecasts incorporate the effects of federal standards and fuel efficiency standards for medium- and heavy-duty vehicles, as well as truck and bus regulations. Vehicle fleet assumptions were adjusted to account for the effect of Advanced Clean Car II (ACC II) Standards, including assumed new sales of battery electric vehicles and plug-in hybrids

Notes: ACC II= Advanced Clean Cars CAFE = Corporate Average Fuel Economy; EMFAC2021 = California Air Resources Board's EMisson FACtor 2021 model.

Source: Ascent Environmental 2022.

Table 13 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions from on-road transportation for 2030, 2035, 2040, and 2045.

Table 13. On-Road Transportation GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Source	2019	2030	2035	2040	2045
On-Road Transportation	1,140,206	793,628	602,306	410,984	219,662

Notes: BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

OFF-ROAD VEHICLES AND EQUIPMENT

Between 2019 and 2045, emissions associated with off-road vehicles and equipment used in the city would increase by 37 percent from 68,756 to 94,276 $MTCO_2e$, with legislative adjustments applied and overall growth in various demographics. Emissions were obtained primarily from CARB's latest off-road emissions model, OFFROAD2021, as well as from CARB's OFFROAD2007 model. With respect to the legislative adjustments in the off-road vehicle sector, OFFROAD2021 was used, which incorporates regulatory actions such as reformulated fuels and more stringent emissions standards. However, some off-road vehicle and equipment sources that are included in the OFFROAD2007 model are excluded from OFFROAD2021. For these sectors, emissions were obtained from OFFROAD2007. In addition, OFFROAD2021 provides CO_2 emissions but does not provide emissions from CH_4 and N_2O. Ratios of CH_4 and N_2O to CO_2 reported in OFFROAD2007 were calculated and applied to CO_2 data from OFFROAD2021 to calculate CH_4 and N_2O emissions, as recommended by CARB.

Orange County-level emissions from off-road vehicles and equipment were scaled using changes in city-specific demographic factors. Table 12 summarizes the scaling factors and legislative reductions used to forecast off-road vehicle and equipment emissions.

Table 12. Off-Road Vehicles and Equipment Forecast Methods by Source

Source	Forecast Methods	
	Scale Factor	Applied Legislative Reductions
Construction and Mining	Service Population	OFFROAD2021 emissions factor considerations include EPA off-road compression-ignition engine standards implementation schedule.
Entertainment Equipment	Employment	
Industrial Equipment	Employment	
Lawn and Garden Equipment	Population	
Light Commercial Equipment	Employment	
Portable Equipment	Employment	
Recreational Equipment	Population	
Transport Refrigeration Units	Service Population	

Notes: EPA = U.S. Environmental Protection Agency; OFFROAD2021 = California Air Resources Board's OFFROAD2021 model.

Source: Ascent Environmental 2022.

Table 13 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions from the off-road vehicles and equipment sector for 2030, 2035, 2040, and 2045.

Table 13. Off-Road Vehicles and Equipment GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Source	2019	2030	2035	2040	2045
Construction and Mining	19,536	21,614	23,051	24,668	26,519
Entertainment Equipment	267	295	317	341	368
Industrial Equipment	25,201	27,892	29,972	32,233	34,753
Lawn and Garden Equipment	708	776	822	874	935
Light Commercial Equipment	5,330	5,899	6,339	6,817	7,350
Portable Equipment	14,647	16,212	17,421	18,734	20,199
Recreational Equipment	267	293	310	329	352
Transport Refrigeration Units	2,799	3,097	3,303	3,534	3,800
Total	**68,756**	**76,077**	**81,534**	**87,531**	**94,276**

Notes: Totals may not sum exactly due to independent rounding. BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

2.1.3 Solid Waste

Between 2019 and 2045, solid waste emissions generated from community activities in the city would increase by approximately 21 percent from 160,626 to 194,692 $MTCO_2e$, accounting for overall population growth of approximately 25 percent over the same time. Solid waste sector emissions include CH_4 emissions from the decay of waste generated annually, which were scaled by population growth within the city between 2019 and 2045. No additional legislative reductions could be applied to this sector, so legislative-adjusted BAU emissions are equivalent to BAU emissions. Table 14 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions from the solid waste sector for 2030, 2035, 2040, and 2045.

Table 14. Solid Waste GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Source	2019	2030	2035	2040	2045
Community-Generated Solid Waste	160,626	175,038	181,590	188,141	194,692

Notes: BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

2.1.4 Water Supply

Between 2019 and 2045, water supply emissions generated from community activities in the city would be reduced to zero due to 100 percent RPS by 2045. It was assumed that certain proportions of water used within the city was extracted, conveyed, treated, and distributed within and outside the city boundary. For the water supply from local sources within the city, the electricity usage associated with extracting, conveying, treating, and distributing water is captured in the building energy sector because these activities take place within the city. Therefore, the electricity usage and emissions associated with extracting, conveying, treating, and distributing water from outside the city boundary was applied to the water sector. Electricity usage associated with water consumption is subject to RPS targets, pursuant to SB 100 requirements. Table 15 summarizes the scaling factor and legislative reduction used to forecast water supply emissions.

Table 15. Water Supply Forecast Methods and Legislative Reductions by Source

Source	Forecast Methods	
	Scale Factor	Applied Legislative Reductions
Water Consumption	Scaled by population growth.	Assumes electricity use for extraction, conveyance, distribution, and treatment follows the 2045 carbon-free electricity requirements.

Source: Ascent Environmental in 2022.

Table 16 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions from the water supply sector for 2030, 2035, 2040, and 2045. Weighted average electric emissions factors shown in Table 7 were used to derive these figures. Results for 2035 and 2040 were derived from the results for 2030 and 2045 using linear interpolation.

Table 16. Water Supply GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Source	2019	2030	2035	2040	2045
Water Supply	30,798	9,973	6,649	3,324	0

Notes: BAU = business-as-usual; $MTCO_2e$/year = metric tons of carbon dioxide equivalent per year.

Source: Ascent Environmental in 2023.

2.1.5 Wastewater Treatment

Between 2019 and 2045, community wastewater treatment emissions would increase by 21 percent from 5,665 to 6,851 $MTCO_2e$. This change reflects an increase in wastewater generation resulting from population growth within the city of approximately 21 percent over the same time. Wastewater treatment-related emissions are generated from centralized wastewater treatment plants (WWTPs) providers for the city. Table 17 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions from wastewater treatment sources for 2030, 2035, 2040, and 2045.

Table 17. Wastewater Treatment GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Source	2019	2030	2035	2040	2045
Centralized WWTPs	5,665	6,173	6,399	6,625	6,851

Notes: BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent; WWTP = wastewater treatment plant.

Source Ascent Environmental 2023.

2.2 MUNICIPAL OPERATIONS FORECAST RESULTS

Estimated municipal operations BAU emissions forecasts were based on predicted growth in City employment between 2019 and 2045. Municipal employment is expected to increase by 21 percent between 2019 and 2045. Change in municipal employment was the sole factor used to forecast BAU emissions for 2030, 2035, 2040, and 2045 for all sectors in the municipal operations inventory. Table 18 shows 2019 municipal employment and anticipated change in municipal employment for the forecast years.

Table 18. City of Irvine Municipal Operations Demographic Forecasts

Forecast Factor	2019	2030	2035	2040	2045
City Employment	1,586	1,728	1,793	1,858	1,922

Source: Ascent Environmental 2023.

Table 19 shows 2019 baseline emissions and BAU emissions forecasts for 2030, 2035, 2040, and 2045.

Table 19. City of Irvine Municipal Operations GHG Emissions Inventory and BAU Forecasts (Annual $MTCO_2e$)

Sector	2019	2030	2035	2040	2045
Buildings and Facilities	12,003	13,080	13,570	14,059	14,549
Employee Commute	3,032	3,304	3,427	3,551	3,674
Wastewater Treatment	1,144	1,246	1,386	1,340	1,386
Vehicle Fleet	1,127	1,228	1,274	1,320	1,366
Streetlights and Traffic Signals	1,097	1,195	1,240	1,285	1,329
Solid Waste	159	174	180	187	193
Water Supply	4	5	5	5	5
Total	**18,566**	**20,232**	**21,083**	**21,747**	**22,504**
Percent Change from 2019 Levels	—	*9%*	*14%*	*17%*	*21%*

Notes: Total may not sum exactly due to independent rounding. BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

Legislative-adjusted BAU emissions forecasts provide an assessment of how the City's municipal operations emissions would change over time without further action from the City. The legislative-adjusted BAU forecast accounts for laws and regulations at the regional, State, and federal levels that would affect emissions, such as regulatory requirements to increase vehicle fuel efficiency and building energy efficiency. These forecasts provide the City with the information needed to focus efforts on certain municipal operations emissions sectors and sources that have the most GHG reduction opportunities. Annual municipal employment change was the sole scaling factor applied to all sectors. A summary of legislative reductions applied is provided in Table 5. Municipal operations legislative-adjusted BAU emissions would decrease by approximately 76 percent between 2019 and 2045, as shown in Table 20 and Figure 4.

Table 20. City of Irvine Municipal Operations GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Sector	2019	2030	2035	2040	2045
Buildings and Facilities	12,003	1,950	1,987	2,023	2,060
Employee Commute	3,032	2,192	1,618	1,045	471
Wastewater Treatment	1,144	1,246	1,386	1,340	1,386
Vehicle Fleet	1,127	912	732	552	372
Streetlights and Traffic Signals	1,097	0	0	0	0
Solid Waste	159	174	180	187	193
Water Supply	4	2	2	1	0
Total	**18,566**	**6,477**	**5,905**	**5,147**	**4,482**
Percent Change from 2019 Levels		**-65%**	**-68%**	**-72%**	**-76%**

Notes: Total may not sum exactly due to independent rounding. BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

Figure 4 also shows the emissions trend that would occur without anticipated legislative reductions, accounting only for changes in municipal employment (i.e., BAU emissions). Without the legislative reductions, emissions would be approximately 237 percent higher in 2045 compared to the legislative-adjusted BAU forecast. Emissions forecasts for each sector are discussed in detail in the following sections.

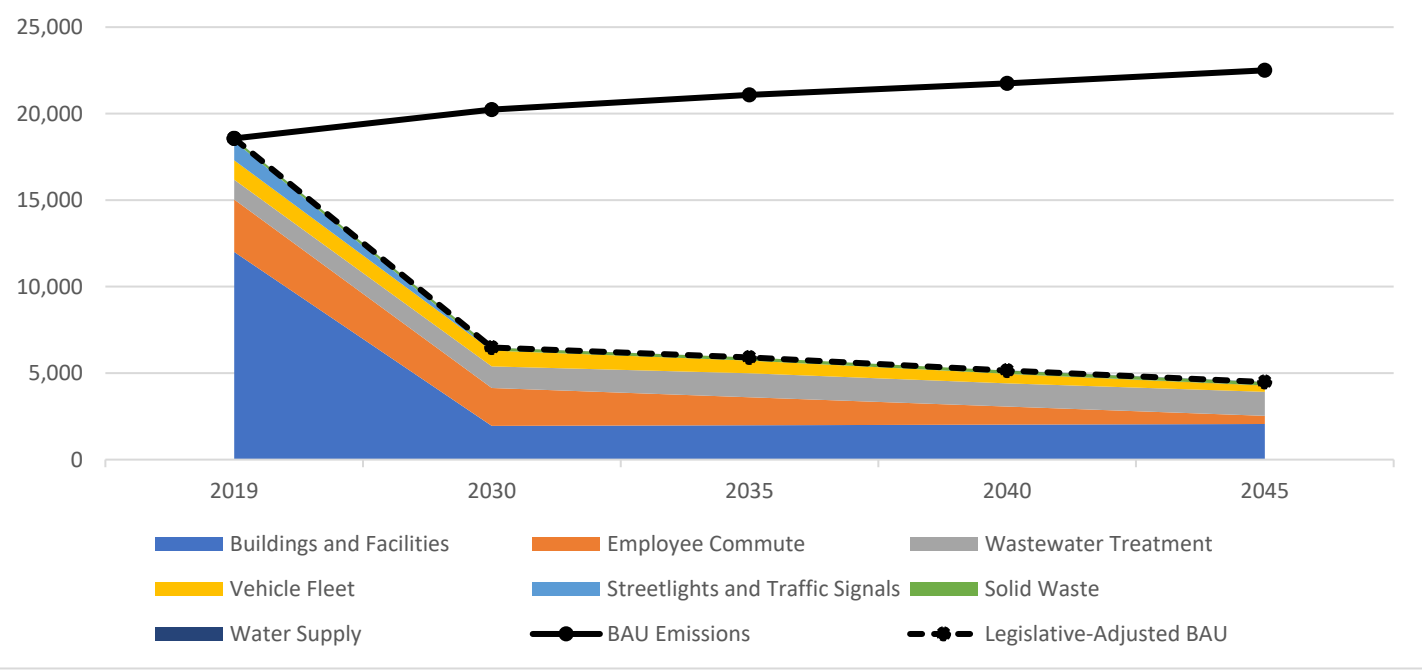

Figure 4 City of Irvine Municipal Operations GHG Emissions Inventory and Forecasts

2.2.1 Buildings and Facilities Energy

Emissions from future electricity, natural gas, and backup generator use in City buildings and facilities were estimated by multiplying anticipated energy use by forecasted emissions factors. Future energy use was forecasted in two parts, as described in Section 2.1.1. Table 21 summarizes the legislative reductions used to forecast buildings and facilities emissions by energy type.

Table 21. Buildings and Facilities Energy Emissions Forecast Legislative Reductions by Energy Type

Energy Type	Applied Legislative Reductions
Electricity	OCPA's carbon-free option was applied to OCPA's electricity emissions factors. Accounts for 2022 Building Energy Efficiency Standards Title 24 energy efficiency gains in new construction based on the best available data for average building energy efficiency.
Natural Gas	Accounts for 2022 Building Energy Efficiency Standards Title 24 energy efficiency gains in new construction based on the best available data for average building energy efficiency.
Backup Generators	None.

Notes: OCPA = Orange County Power Authority.

Source: Ascent Environmental 2022.

Between 2019 and 2045, emissions from electricity, natural gas, and backup generators from municipal buildings and facilities would decrease by approximately 83 percent from 12,003 to 2,060 $MTCO_2e$, accounting for legislative adjustments and municipal employment changes. This change reflects increases in emissions from natural gas and backup generators combined with the City's automatic enrollment in OCPA's carbon-free option. Table 22 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions for the municipal operations buildings and facilities energy sector by energy type for 2030, 2035, 2040, and 2045.

Table 22. Buildings and Facilities Energy GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Energy Type	2019	2030	2035	2040	2045
Electricity	10,138	0	0	0	0
Natural Gas	1,862	1,947	1,983	2,020	2,056
Backup Generators	3	3	3	3	4
Total	**12,003**	**1,950**	**1,987**	**2,023**	**2,060**

Notes: Totals may not sum exactly due to independent rounding. BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

ELECTRICITY EMISSIONS FACTORS

As a result of the electricity emissions factors to be decreased to zero by 2030, GHG emissions from electricity consumption in the buildings and facilities sector would also be zero through 2045 without additional City action. Electricity emissions factors and changes through 2045 are described in Section 2.1.1.

NATURAL GAS EMISSIONS FACTORS

Natural gas emissions are based on data from TCR, as described in Section 2.1.1. Emissions factors associated with natural gas combustion are not anticipated to change over time, as there are no legislative actions that would reduce the energy intensity of natural gas.

DIESEL EMISSIONS FACTORS

Emissions from diesel fuel used to power backup generators are based on emissions factors from TCR, as described in Section 2.1.1. Emissions factors associated with diesel combustion are not anticipated to change over time, as there are no legislative actions that would reduce the energy intensity of diesel.

2.2.2 Streetlights and Traffic Signals

Between 2019 and 2045, emissions from streetlights and traffic signals would be reduced to zero, accounting for legislative adjustments and employment reductions. This reflects lower electricity emissions factors related the City's automatic enrollment of municipal accounts in OCPA's carbon-free option. Table 23 summarizes the legislative reductions used to forecast streetlight and traffic signal emissions.

Table 23. Streetlights and Facilities Emissions Forecast Legislative Reductions

Source	Applied Legislative Reductions
Electricity	OCPA's carbon-free option was applied to OCPA's electricity emissions factors.

Notes: OCPA = Orange County Power Authority.

Source: Ascent Environmental 2022.

Table 24 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions for the streetlights and traffic signals sector for 2030, 2035, 2040, and 2045.

Table 24. Streetlights and Traffic Signals GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Source	2019	2030	2035	2040	2045
Streetlights and Traffic Signals	1,097	0	0	0	0

Notes: BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

2.2.3 Employee Commute

Between 2019 and 2045, GHG emissions from employee commutes would decrease by approximately 85 percent from 3,032 to 471 $MTCO_2e$, accounting for future vehicle emissions factors modeled in CARB's EMFAC2021 model and municipal employment change. It was assumed that employees that commute to work all use light-duty vehicles. With respect to the legislative adjustments included in this forecast, State and federal laws and regulations incorporated in the employee commute sector include the Pavley Clean Car Standards and ACC II Standards. Pavley Clean Car Standards are already included in EMFAC2021's emissions factor estimates and forecasts. Additional calculations were performed to incorporate the effects of ACCII.

It should be noted that the Low Carbon Fuel Standard was excluded in EMFAC2021 forecasts because most of the emissions benefits originate from upstream fuel production and do not directly reduce emissions in the City's municipal operations GHG emissions forecasts. Table 25 summarizes the legislative reductions used to forecast employee commute emissions.

Table 25. Employee Commute Forecast Legislative Reductions

Source	Applied Legislative Reductions
Employee Commute	EMFAC2021 forecasts vehicle fleet distributions by vehicle type and the emissions factors anticipated for each vehicle category based on both vehicle emissions testing and approved legislative reductions. EMFAC2021's forecasts incorporate the effects of the CAFE standards. Separate calculations were performed to incorporate the effects of ACC II.

Notes: ACC II= Advanced Clelars II; CAFE = Corporate Average Fuel Economy; EMFAC2021 = California Air Resources Board's EMisson FACtor 2021 model.

Source: Ascent Environmental 2022.

Table 26 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions from municipal employee commutes for 2030, 2035, 2040, and 2045. Values for 2035 and 2040 were derived using linear interpolation.

Table 26. Employee Commute GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Source	2019	2030	2035	2040	2045
Employee Commute	3,032	2,192	1,618	1,045	471

Notes: BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

2.2.4 Vehicle Fleet

Between 2019 and 2045, emissions associated with the City's municipal vehicle fleet would decrease by approximately 67 percent from 1,127 to 372 $MTCO_2e$, accounting for legislative adjustments and municipal employment change. Vehicle fleet fuel consumption data (i.e., gallons of gasoline and diesel fuel) for 2019 were provided by the City for all City-owned vehicles and equipment. Because additional vehicle fleet data were unavailable, total emissions for gasoline and diesel fuel were estimated using emissions factors obtained from TCR. With respect to the legislative adjustments in the vehicle fleet sector, improvements in fuel efficiency reported by CARB's EMFAC2021 model, as described in Section 2.1.2, were applied to BAU emissions forecasts. Effects of ACCII standards were incorporated using calculations performed separately. Table 27 summarizes the legislative reductions used to forecast vehicle fleet emissions.

Table 27. Vehicle Fleet Forecast Legislative Reductions

Source	Applied Legislative Reductions
Vehicle Fleet	EMFAC2021 forecasts vehicle fleet distributions by vehicle type and the emissions factors anticipated for each vehicle category based on both vehicle emissions testing and approved legislative reductions. EMFAC2021's forecasts incorporate the effects of the CAFE standards. Additional calculations were performed to incorporate the effects of ACCII.

Notes: ACC II= Advanced Clean Cars II; CAFE = Corporate Average Fuel Economy; EMFAC2021 = California Air Resources Board's EMisson FACtor 2021 model.

Source: Ascent Environmental 2022.

Table 28 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions from the vehicle fleet sector by fuel source for 2030, 2035, 2040, and 2045. Values for 2035 and 2040 were derived using linear interpolation.

Table 28. Vehicle Fleet GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Source	2019	2030	2035	2040	2045
Gasoline	954	772	620	467	315
CNG	173	140	112	85	57
Total	**1,127**	**912**	**732**	**552**	**372**

Notes: Totals may not sum exactly due to independent rounding. BAU = business-as-usual; CNG = compressed natural gas; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

2.2.5 Solid Waste

Between 2019 and 2045, municipal operations solid waste emissions would increase by approximately 11 percent from 159 to 193 $MTCO_2e$, accounting for municipal employment change. No additional legislative reductions could be applied to this sector, so legislative-adjusted BAU emissions are equivalent to BAU emissions. Table 29 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions from the municipal operations solid waste sector for 2030, 2035, 2040, and 2045.

Table 29. Solid Waste GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Source	2019	2030	2035	2040	2045
Solid Waste	159	174	180	187	193

Notes: BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

2.2.6 Water Supply

Between 2019 and 2045, emissions from water supplied for municipal operations would be reduced to zero due to 100 percent RPS by 2045. For the water supply from local sources within the city, the electricity usage associated with extracting, conveying, treating, and distributing water is captured in the buildings and facilities energy sector because these activities take place within the city. Therefore, the electricity usage and emissions associated with extracting, conveying, treating, and distributing water from outside the city boundary was applied to the municipal water sector. Table 30 summarizes the legislative reductions used to forecast water supply emissions.

Table 30. Water Supply Forecast Legislative Reductions

Source	Applied Legislative Reductions
Water Consumption	RPS achieved to date and scheduled targets (i.e., 33 percent renewable by 2020, 60 percent renewable by 2030, 100 percent renewable by 2045) applied to SCE's, and State electricity emissions factors.

Notes: RPS = Renewables Portfolio Standard; SCE = Southern California Edison.

Source: Ascent Environmental 2022.

Table 31 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions from municipal operations water supply for 2030, 2035, 2040, and 2045.

Table 31. Water Supply GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Activity	2019	2030	2035	2040	2045
Water Supply Emissions	4	2	2	1	0

Notes: BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

2.2.7 Wastewater Treatment

Between 2019 and 2045, wastewater treatment emissions from municipal operations would increase by approximately 20 percent from 1,144 to 1,386 $MTCO_2e$, accounting for legislative reductions and municipal employment change. This reflects both an increase in wastewater generation and lower electricity emissions factors related to the 2030 and 2045 RPS targets for SCE, pursuant to SB 100, due to treatment processes located outside of the OCPA service area. Although electricity intensity factors are reduced through 2045, increases in process and fugitive emissions resulting from wastewater collection and treatment would offset decreased electricity emissions. Table 32 summarizes the legislative reductions used to forecast emissions from municipal operations wastewater treatment.

Table 32. Wastewater Treatment Forecast Legislative Reductions

Source	Applied Legislative Reductions
Wastewater Treatment	RPS achieved to date and scheduled targets (i.e., 33 percent renewable by 2020, 60 percent renewable by 2030, 100 percent renewable by 2045) applied to SCE's electricity emissions factors.

Notes: RPS = Renewables Portfolio Standard; SCE = Southern California Edison.

Source: Ascent Environmental 2022.

Table 33 shows the 2019 inventory and legislative-adjusted BAU forecasted emissions from wastewater treatment for 2030, 2035, 2040, and 2045.

Table 33. Wastewater Treatment GHG Emissions Inventory and Legislative-Adjusted BAU Forecasts (Annual $MTCO_2e$)

Activity	2019	2030	2035	2040	2045
Wastewater Treatment	1,144	1,246	1,386	1,340	1,386

Notes: BAU = business-as-usual; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2023.

2.3 DISCUSSION

The community and municipal legislative-adjusted BAU emissions would decrease by approximately 38 percent and 64 percent between 2019 and 2045, respectively. This is a result of reductions that would be achieved from several legislative actions including:

- a greater renewable mix in SCE's and State electricity supply (60 percent by 2030 and 100 percent by 2045);
- carbon-free electricity supplied by OCPA;
- improved building energy efficiency through compliance with Title 24 standards;
- reductions in on-road vehicle emissions factors from State vehicle standards as forecasted in EMFAC2021 and ACC II standards; and
- reductions in off-road vehicle and equipment emissions factors forecasted in OFFROAD2021.

Going forward, new legislative actions that would affect emissions may be adopted by State and federal agencies; however, because information regarding these regulatory changes is currently unavailable or not final, emissions reductions from future potential legislative actions are not quantified in this memorandum. Where new State regulations or programs are imminent and reasonably foreseeable, they can be incorporated as complementary actions to locally based GHG reduction measures.

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APPENDIX F-1

Greenhouse Gas Emissions for Hypothetical Project #1

Irvine GPU - Sample Residential Project Detailed Report

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4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Irvine GPU - Sample Residential Project
Construction Start Date	1/1/2026
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	19.6
Location	Irvine, CA, USA
County	Orange
City	Irvine
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5924
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Apartments Mid Rise	440	Dwelling Unit	11.6	422,400	100,000	—	1,311	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.49	132	12.3	30.4	0.03	0.39	4.54	4.93	0.36	1.08	1.44	—	7,998	7,998	0.22	0.38	18.1	8,134
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.80	3.20	29.2	29.6	0.06	1.24	19.9	21.1	1.14	10.2	11.3	—	7,799	7,799	0.27	0.38	0.47	7,918
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.91	7.85	11.0	19.8	0.03	0.38	3.77	4.16	0.35	1.17	1.52	—	5,184	5,184	0.16	0.21	4.32	5,256
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.35	1.43	2.01	3.62	< 0.005	0.07	0.69	0.76	0.06	0.21	0.28	—	858	858	0.03	0.04	0.72	870

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.49	2.17	12.3	30.4	0.03	0.39	4.54	4.93	0.36	1.08	1.44	—	7,998	7,998	0.22	0.38	18.1	8,134
2027	2.40	132	11.8	29.3	0.03	0.35	4.54	4.89	0.32	1.08	1.40	—	7,901	7,901	0.21	0.37	16.3	8,032
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.80	3.20	29.2	29.6	0.06	1.24	19.9	21.1	1.14	10.2	11.3	—	7,799	7,799	0.27	0.38	0.47	7,918
2027	2.40	1.96	11.9	27.1	0.03	0.35	4.54	4.89	0.32	1.08	1.40	—	7,706	7,706	0.22	0.37	0.42	7,821
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.91	1.65	11.0	19.8	0.03	0.38	3.77	4.16	0.35	1.17	1.52	—	5,184	5,184	0.16	0.21	4.32	5,256
2027	0.74	7.85	3.80	8.55	0.01	0.11	1.31	1.43	0.11	0.31	0.42	—	2,314	2,314	0.07	0.11	2.05	2,349
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.35	0.30	2.01	3.62	< 0.005	0.07	0.69	0.76	0.06	0.21	0.28	—	858	858	0.03	0.04	0.72	870
2027	0.13	1.43	0.69	1.56	< 0.005	0.02	0.24	0.26	0.02	0.06	0.08	—	383	383	0.01	0.02	0.34	389

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.2	19.1	6.19	80.2	0.15	0.20	13.6	13.8	0.19	3.45	3.64	207	17,719	17,926	21.7	0.66	48.1	18,714
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.78	16.8	6.36	51.8	0.14	0.18	13.6	13.8	0.18	3.45	3.63	207	17,101	17,308	21.8	0.69	4.19	18,061

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.94	17.9	6.31	67.4	0.14	0.19	12.8	13.0	0.18	3.24	3.42	207	16,602	16,809	21.7	0.66	21.5	17,570
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.63	3.27	1.15	12.3	0.03	0.03	2.33	2.36	0.03	0.59	0.62	34.3	2,749	2,783	3.59	0.11	3.56	2,909

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.69	7.06	4.72	54.7	0.14	0.08	13.6	13.7	0.08	3.45	3.53	—	14,442	14,442	0.66	0.56	45.1	14,670
Area	2.31	12.0	0.24	25.0	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	66.7	66.7	< 0.005	< 0.005	—	67.0
Energy	0.14	0.07	1.23	0.53	0.01	0.10	—	0.10	0.10	—	0.10	—	3,096	3,096	0.28	0.02	—	3,109
Water	—	—	—	—	—	—	—	—	—	—	—	31.6	115	146	3.26	0.08	—	251
Waste	—	—	—	—	—	—	—	—	—	—	—	175	0.00	175	17.5	0.00	—	613
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.03	3.03
Total	10.2	19.1	6.19	80.2	0.15	0.20	13.6	13.8	0.19	3.45	3.64	207	17,719	17,926	21.7	0.66	48.1	18,714
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.64	7.00	5.12	51.3	0.14	0.08	13.6	13.7	0.08	3.45	3.53	—	13,890	13,890	0.69	0.59	1.17	14,084
Area	0.00	9.76	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.14	0.07	1.23	0.53	0.01	0.10	—	0.10	0.10	—	0.10	—	3,096	3,096	0.28	0.02	—	3,109
Water	—	—	—	—	—	—	—	—	—	—	—	31.6	115	146	3.26	0.08	—	251
Waste	—	—	—	—	—	—	—	—	—	—	—	175	0.00	175	17.5	0.00	—	613
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.03	3.03

Total	7.78	16.8	6.36	51.8	0.14	0.18	13.6	13.8	0.18	3.45	3.63	207	17,101	17,308	21.8	0.69	4.19	18,061
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.21	6.61	4.91	49.8	0.13	0.08	12.8	12.8	0.07	3.24	3.32	—	13,346	13,346	0.65	0.56	18.5	13,548
Area	1.58	11.3	0.16	17.1	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	45.7	45.7	< 0.005	< 0.005	—	45.9
Energy	0.14	0.07	1.23	0.53	0.01	0.10	—	0.10	0.10	—	0.10	—	3,096	3,096	0.28	0.02	—	3,109
Water	—	—	—	—	—	—	—	—	—	—	—	31.6	115	146	3.26	0.08	—	251
Waste	—	—	—	—	—	—	—	—	—	—	—	175	0.00	175	17.5	0.00	—	613
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.03	3.03
Total	8.94	17.9	6.31	67.4	0.14	0.19	12.8	13.0	0.18	3.24	3.42	207	16,602	16,809	21.7	0.66	21.5	17,570
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.32	1.21	0.90	9.09	0.02	0.01	2.33	2.35	0.01	0.59	0.61	—	2,210	2,210	0.11	0.09	3.06	2,243
Area	0.29	2.06	0.03	3.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	7.57	7.57	< 0.005	< 0.005	—	7.60
Energy	0.03	0.01	0.23	0.10	< 0.005	0.02	—	0.02	0.02	—	0.02	—	513	513	0.05	< 0.005	—	515
Water	—	—	—	—	—	—	—	—	—	—	—	5.24	19.0	24.2	0.54	0.01	—	41.6
Waste	—	—	—	—	—	—	—	—	—	—	—	29.0	0.00	29.0	2.90	0.00	—	102
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.50	0.50
Total	1.63	3.27	1.15	12.3	0.03	0.03	2.33	2.36	0.03	0.59	0.62	34.3	2,749	2,783	3.59	0.11	3.56	2,909

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.72	2.29	20.7	19.0	0.03	0.84	—	0.84	0.78	—	0.78	—	3,427	3,427	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.13	1.04	< 0.005	0.05	—	0.05	0.04	—	0.04	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.68	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	186	186	< 0.005	0.01	0.02	188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.02	10.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.71	1.71	< 0.005	< 0.005	< 0.005	1.73
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.74	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.10	0.09	0.80	0.79	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.80	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	217	217	< 0.005	0.01	0.02	219
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.02	6.02	< 0.005	< 0.005	0.01	6.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	0.25	2.24	2.27	0.01	0.09	—	0.09	0.08	—	0.08	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.76	0.76	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	0.41	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.07	0.91	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	248	248	< 0.005	0.01	0.02	251
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.7	20.7	< 0.005	< 0.005	0.03	20.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.42	3.42	< 0.005	< 0.005	0.01	3.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.70	0.58	5.36	7.05	0.01	0.21	—	0.21	0.19	—	0.19	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.98	1.29	< 0.005	0.04	—	0.04	0.03	—	0.03	—	216	216	0.01	< 0.005	—	217
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.10	1.07	0.96	16.7	0.00	0.00	4.14	4.14	0.00	0.97	0.97	—	4,125	4,125	0.05	0.15	14.3	4,186
Vendor	0.12	0.03	1.50	0.75	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,475	1,475	0.07	0.21	3.81	1,543
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.09	1.07	1.11	14.4	0.00	0.00	4.14	4.14	0.00	0.97	0.97	—	3,926	3,926	0.06	0.15	0.37	3,973
Vendor	0.11	0.03	1.56	0.77	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,476	1,476	0.07	0.21	0.10	1,540
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.58	0.60	8.14	0.00	0.00	2.22	2.22	0.00	0.52	0.52	—	2,165	2,165	0.03	0.08	3.37	2,194
Vendor	0.06	0.02	0.86	0.41	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	803	803	0.04	0.11	0.90	838
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.11	0.11	1.49	0.00	0.00	0.41	0.41	0.00	0.10	0.10	—	358	358	0.01	0.01	0.56	363
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.15	139
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.29	2.63	3.62	0.01	0.09	—	0.09	0.09	—	0.09	—	671	671	0.03	0.01	—	673
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.48	0.66	< 0.005	0.02	—	0.02	0.02	—	0.02	—	111	111	< 0.005	< 0.005	—	111
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.05	0.90	0.95	15.7	0.00	0.00	4.14	4.14	0.00	0.97	0.97	—	4,056	4,056	0.04	0.15	12.9	4,114
Vendor	0.11	0.03	1.44	0.72	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,448	1,448	0.07	0.20	3.46	1,512
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.05	0.90	0.97	13.5	0.00	0.00	4.14	4.14	0.00	0.97	0.97	—	3,860	3,860	0.05	0.15	0.33	3,906
Vendor	0.11	0.03	1.50	0.73	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,449	1,449	0.07	0.20	0.09	1,510
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.25	0.31	3.93	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,095	1,095	0.01	0.04	1.56	1,109
Vendor	0.03	0.01	0.42	0.20	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	405	405	0.02	0.06	0.42	423

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.06	0.72	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	181	181	< 0.005	0.01	0.26	184
Vendor	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	67.1	67.1	< 0.005	0.01	0.07	70.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.38	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8

Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.74	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	< 0.005	0.01	0.61	195
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	10.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.68	1.68	< 0.005	< 0.005	< 0.005	1.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	132	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	—	7.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	—	1.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.18	0.19	3.13	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	811	811	0.01	0.03	2.57	823
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	42.9	42.9	< 0.005	< 0.005	0.06	43.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.10	7.10	< 0.005	< 0.005	0.01	7.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	7.69	7.06	4.72	54.7	0.14	0.08	13.6	13.7	0.08	3.45	3.53	—	14,442	14,442	0.66	0.56	45.1	14,670
Total	7.69	7.06	4.72	54.7	0.14	0.08	13.6	13.7	0.08	3.45	3.53	—	14,442	14,442	0.66	0.56	45.1	14,670
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments Mid Rise	7.64	7.00	5.12	51.3	0.14	0.08	13.6	13.7	0.08	3.45	3.53	—	13,890	13,890	0.69	0.59	1.17	14,084
Total	7.64	7.00	5.12	51.3	0.14	0.08	13.6	13.7	0.08	3.45	3.53	—	13,890	13,890	0.69	0.59	1.17	14,084
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.32	1.21	0.90	9.09	0.02	0.01	2.33	2.35	0.01	0.59	0.61	—	2,210	2,210	0.11	0.09	3.06	2,243
Total	1.32	1.21	0.90	9.09	0.02	0.01	2.33	2.35	0.01	0.59	0.61	—	2,210	2,210	0.11	0.09	3.06	2,243

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,530	1,530	0.15	0.02	—	1,539
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,530	1,530	0.15	0.02	—	1,539
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,530	1,530	0.15	0.02	—	1,539
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,530	1,530	0.15	0.02	—	1,539
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	253	253	0.02	< 0.005	—	255

Total	—	—	—	—	—	—	—	—	—	—	—	—	253	253	0.02	< 0.005	—	255

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.14	0.07	1.23	0.53	0.01	0.10	—	0.10	0.10	—	0.10	—	1,566	1,566	0.14	< 0.005	—	1,571
Total	0.14	0.07	1.23	0.53	0.01	0.10	—	0.10	0.10	—	0.10	—	1,566	1,566	0.14	< 0.005	—	1,571
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.14	0.07	1.23	0.53	0.01	0.10	—	0.10	0.10	—	0.10	—	1,566	1,566	0.14	< 0.005	—	1,571
Total	0.14	0.07	1.23	0.53	0.01	0.10	—	0.10	0.10	—	0.10	—	1,566	1,566	0.14	< 0.005	—	1,571
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.03	0.01	0.23	0.10	< 0.005	0.02	—	0.02	0.02	—	0.02	—	259	259	0.02	< 0.005	—	260
Total	0.03	0.01	0.23	0.10	< 0.005	0.02	—	0.02	0.02	—	0.02	—	259	259	0.02	< 0.005	—	260

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	9.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.31	2.19	0.24	25.0	< 0.005	0.01	—	0.01	0.01	—	0.01	—	66.7	66.7	< 0.005	< 0.005	—	67.0
Total	2.31	12.0	0.24	25.0	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	66.7	66.7	< 0.005	< 0.005	—	67.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	9.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	9.76	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	1.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	0.29	0.27	0.03	3.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.57	7.57	< 0.005	< 0.005	—	7.60
Total	0.29	2.06	0.03	3.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	7.57	7.57	< 0.005	< 0.005	—	7.60

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	31.6	115	146	3.26	0.08	—	251
Total	—	—	—	—	—	—	—	—	—	—	—	31.6	115	146	3.26	0.08	—	251
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	31.6	115	146	3.26	0.08	—	251
Total	—	—	—	—	—	—	—	—	—	—	—	31.6	115	146	3.26	0.08	—	251
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	5.24	19.0	24.2	0.54	0.01	—	41.6
Total	—	—	—	—	—	—	—	—	—	—	—	5.24	19.0	24.2	0.54	0.01	—	41.6

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	175	0.00	175	17.5	0.00	—	613
Total	—	—	—	—	—	—	—	—	—	—	—	175	0.00	175	17.5	0.00	—	613
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	175	0.00	175	17.5	0.00	—	613
Total	—	—	—	—	—	—	—	—	—	—	—	175	0.00	175	17.5	0.00	—	613
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	29.0	0.00	29.0	2.90	0.00	—	102
Total	—	—	—	—	—	—	—	—	—	—	—	29.0	0.00	29.0	2.90	0.00	—	102

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.03	3.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.03	3.03
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.03	3.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.03	3.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.50	0.50
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.50	0.50

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2026	1/29/2026	5.00	20.0	—
Site Preparation	Site Preparation	1/30/2026	2/13/2026	5.00	10.0	—

Grading	Grading	2/14/2026	3/28/2026	5.00	30.0	—
Building Construction	Building Construction	3/29/2026	5/23/2027	5.00	300	—
Paving	Paving	5/24/2027	6/21/2027	5.00	20.0	—
Architectural Coating	Architectural Coating	6/22/2027	7/20/2027	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42

Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	317	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	47.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	63.4	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	855,360	285,120	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	15.0	0.00	—

Grading	—	—	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	2,394	2,160	1,800	830,531	19,225	17,352	14,454	6,670,557

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	400
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
855360	285,120	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)

Apartments Mid Rise	1,612,967	346	0.0330	0.0040	4,887,011

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	16,511,286	1,584,046

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	325	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.54	annual days of extreme heat
Extreme Precipitation	3.60	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	59.7
AQ-PM	63.2
AQ-DPM	81.4
Drinking Water	47.3
Lead Risk Housing	18.3
Pesticides	45.9
Toxic Releases	84.3
Traffic	53.5
Effect Indicators	—
CleanUp Sites	17.1
Groundwater	10.6
Haz Waste Facilities/Generators	94.3
Impaired Water Bodies	83.0
Solid Waste	24.8
Sensitive Population	—
Asthma	8.91
Cardio-vascular	23.2
Low Birth Weights	28.8
Socioeconomic Factor Indicators	—
Education	12.0
Housing	51.8
Linguistic	40.4
Poverty	54.1
Unemployment	35.0

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	59.84858206
Employed	83.80597973
Median HI	61.09328885
Education	—
Bachelor's or higher	89.87552932
High school enrollment	100
Preschool enrollment	95.7141024
Transportation	—
Auto Access	32.25972026
Active commuting	49.49313486
Social	—
2-parent households	54.35647376
Voting	24.03438984
Neighborhood	—
Alcohol availability	37.16155524
Park access	81.35506224
Retail density	86.30822533
Supermarket access	86.78301039
Tree canopy	16.0272039
Housing	—
Homeownership	7.481072758
Housing habitability	58.06493007
Low-inc homeowner severe housing cost burden	85.62812781

Low-inc renter severe housing cost burden	80.00769922
Uncrowded housing	49.60862312
Health Outcomes	—
Insured adults	78.89131272
Arthritis	95.7
Asthma ER Admissions	91.4
High Blood Pressure	94.4
Cancer (excluding skin)	74.5
Asthma	72.9
Coronary Heart Disease	96.0
Chronic Obstructive Pulmonary Disease	93.7
Diagnosed Diabetes	95.3
Life Expectancy at Birth	83.1
Cognitively Disabled	62.4
Physically Disabled	45.1
Heart Attack ER Admissions	80.6
Mental Health Not Good	78.4
Chronic Kidney Disease	95.6
Obesity	95.5
Pedestrian Injuries	53.5
Physical Health Not Good	93.2
Stroke	95.7
Health Risk Behaviors	—
Binge Drinking	29.5
Current Smoker	81.1
No Leisure Time for Physical Activity	80.7
Climate Change Exposures	—

Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	67.0
Elderly	84.2
English Speaking	30.4
Foreign-born	89.5
Outdoor Workers	68.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	58.1
Traffic Density	22.1
Traffic Access	23.0
Other Indices	—
Hardship	24.0
Other Decision Support	—
2016 Voting	46.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	37.0
Healthy Places Index Score for Project Location (b)	75.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Operations: Hearths	No woodstoves or fireplaces

APPENDIX F-2

Greenhouse Gas Emissions for Hypothetical Project #2

15937 - Irvine GPU (Operation) Detailed Report

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5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	15937 - Irvine GPU (Operation)
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	19.6
Location	33.688397, -117.841364
County	Orange
City	Irvine
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6804
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments High Rise	1,500	Dwelling Unit	15.0	1,005,000	0.00	—	4,470	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	31.9	52.2	21.4	282	0.56	0.69	51.3	52.0	0.66	13.0	13.7	706	68,241	68,946	74.0	2.32	177	71,664
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	23.9	44.6	22.0	182	0.54	0.65	51.3	52.0	0.63	13.0	13.6	706	65,930	66,636	74.1	2.40	11.6	69,216
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	28.1	48.7	22.0	237	0.52	0.66	48.5	49.2	0.64	12.3	13.0	706	64,426	65,131	74.0	2.33	77.5	67,752
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.13	8.88	4.02	43.2	0.10	0.12	8.85	8.98	0.12	2.25	2.36	117	10,666	10,783	12.3	0.38	12.8	11,217

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	23.5	21.3	16.4	195	0.53	0.31	51.3	51.6	0.29	13.0	13.3	—	54,101	54,101	2.20	1.98	170	54,915
Area	7.89	30.7	0.81	85.2	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	228	228	0.01	< 0.005	—	228
Energy	0.49	0.25	4.21	1.79	0.03	0.34	—	0.34	0.34	—	0.34	—	13,354	13,354	0.97	0.07	—	13,399
Water	—	—	—	—	—	—	—	—	—	—	—	108	558	666	11.1	0.27	—	1,023
Waste	—	—	—	—	—	—	—	—	—	—	—	598	0.00	598	59.7	0.00	—	2,091
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.20	7.20
Total	31.9	52.2	21.4	282	0.56	0.69	51.3	52.0	0.66	13.0	13.7	706	68,241	68,946	74.0	2.32	177	71,664
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	23.4	21.1	17.8	180	0.51	0.31	51.3	51.6	0.29	13.0	13.3	—	52,018	52,018	2.28	2.07	4.41	52,695
Area	0.00	23.2	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.49	0.25	4.21	1.79	0.03	0.34	—	0.34	0.34	—	0.34	—	13,354	13,354	0.97	0.07	—	13,399
Water	—	—	—	—	—	—	—	—	—	—	—	108	558	666	11.1	0.27	—	1,023
Waste	—	—	—	—	—	—	—	—	—	—	—	598	0.00	598	59.7	0.00	—	2,091
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.20	7.20
Total	23.9	44.6	22.0	182	0.54	0.65	51.3	52.0	0.63	13.0	13.6	706	65,930	66,636	74.1	2.40	11.6	69,216
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.2	20.1	17.3	177	0.49	0.29	48.5	48.8	0.27	12.3	12.6	—	50,358	50,358	2.17	1.99	70.3	51,074
Area	5.40	28.3	0.56	58.3	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	156	156	0.01	< 0.005	—	156
Energy	0.49	0.25	4.21	1.79	0.03	0.34	—	0.34	0.34	—	0.34	—	13,354	13,354	0.97	0.07	—	13,399
Water	—	—	—	—	—	—	—	—	—	—	—	108	558	666	11.1	0.27	—	1,023
Waste	—	—	—	—	—	—	—	—	—	—	—	598	0.00	598	59.7	0.00	—	2,091
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.20	7.20
Total	28.1	48.7	22.0	237	0.52	0.66	48.5	49.2	0.64	12.3	13.0	706	64,426	65,131	74.0	2.33	77.5	67,752
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.06	3.66	3.15	32.3	0.09	0.05	8.85	8.91	0.05	2.25	2.30	—	8,337	8,337	0.36	0.33	11.6	8,456
Area	0.99	5.17	0.10	10.6	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	0.00	25.8	25.8	< 0.005	< 0.005	—	25.9

Energy	0.09	0.04	0.77	0.33	< 0.005	0.06	—	0.06	0.06	—	0.06	—	2,211	2,211	0.16	0.01	—	2,218
Water	—	—	—	—	—	—	—	—	—	—	—	17.9	92.5	110	1.84	0.04	—	169
Waste	—	—	—	—	—	—	—	—	—	—	—	99.0	0.00	99.0	9.89	0.00	—	346
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.19	1.19
Total	5.13	8.88	4.02	43.2	0.10	0.12	8.85	8.98	0.12	2.25	2.36	117	10,666	10,783	12.3	0.38	12.8	11,217

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	23.5	21.3	16.4	195	0.53	0.31	51.3	51.6	0.29	13.0	13.3	—	54,101	54,101	2.20	1.98	170	54,915
Total	23.5	21.3	16.4	195	0.53	0.31	51.3	51.6	0.29	13.0	13.3	—	54,101	54,101	2.20	1.98	170	54,915
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	23.4	21.1	17.8	180	0.51	0.31	51.3	51.6	0.29	13.0	13.3	—	52,018	52,018	2.28	2.07	4.41	52,695
Total	23.4	21.1	17.8	180	0.51	0.31	51.3	51.6	0.29	13.0	13.3	—	52,018	52,018	2.28	2.07	4.41	52,695
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	4.06	3.66	3.15	32.3	0.09	0.05	8.85	8.91	0.05	2.25	2.30	—	8,337	8,337	0.36	0.33	11.6	8,456

Total	4.06	3.66	3.15	32.3	0.09	0.05	8.85	8.91	0.05	2.25	2.30	—	8,337	8,337	0.36	0.33	11.6	8,456

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	8,014	8,014	0.50	0.06	—	8,045
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,014	8,014	0.50	0.06	—	8,045
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	8,014	8,014	0.50	0.06	—	8,045
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,014	8,014	0.50	0.06	—	8,045
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,327	1,327	0.08	0.01	—	1,332
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,327	1,327	0.08	0.01	—	1,332

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	0.49	0.25	4.21	1.79	0.03	0.34	—	0.34	0.34	—	0.34	—	5,339	5,339	0.47	0.01	—	5,354
Total	0.49	0.25	4.21	1.79	0.03	0.34	—	0.34	0.34	—	0.34	—	5,339	5,339	0.47	0.01	—	5,354
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	0.49	0.25	4.21	1.79	0.03	0.34	—	0.34	0.34	—	0.34	—	5,339	5,339	0.47	0.01	—	5,354
Total	0.49	0.25	4.21	1.79	0.03	0.34	—	0.34	0.34	—	0.34	—	5,339	5,339	0.47	0.01	—	5,354
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	0.09	0.04	0.77	0.33	< 0.005	0.06	—	0.06	0.06	—	0.06	—	884	884	0.08	< 0.005	—	886
Total	0.09	0.04	0.77	0.33	< 0.005	0.06	—	0.06	0.06	—	0.06	—	884	884	0.08	< 0.005	—	886

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	21.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	1.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	7.89	7.47	0.81	85.2	< 0.005	0.04	—	0.04	0.03	—	0.03	—	228	228	0.01	< 0.005	—	228
Total	7.89	30.7	0.81	85.2	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	228	228	0.01	< 0.005	—	228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	21.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	23.2	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	3.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.99	0.93	0.10	10.6	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	25.8	25.8	< 0.005	< 0.005	—	25.9
Total	0.99	5.17	0.10	10.6	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	0.00	25.8	25.8	< 0.005	< 0.005	—	25.9

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	108	558	666	11.1	0.27	—	1,023
Total	—	—	—	—	—	—	—	—	—	—	—	108	558	666	11.1	0.27	—	1,023
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	108	558	666	11.1	0.27	—	1,023
Total	—	—	—	—	—	—	—	—	—	—	—	108	558	666	11.1	0.27	—	1,023
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	17.9	92.5	110	1.84	0.04	—	169
Total	—	—	—	—	—	—	—	—	—	—	—	17.9	92.5	110	1.84	0.04	—	169

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	598	0.00	598	59.7	0.00	—	2,091
Total	—	—	—	—	—	—	—	—	—	—	—	598	0.00	598	59.7	0.00	—	2,091
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	598	0.00	598	59.7	0.00	—	2,091
Total	—	—	—	—	—	—	—	—	—	—	—	598	0.00	598	59.7	0.00	—	2,091
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	99.0	0.00	99.0	9.89	0.00	—	346
Total	—	—	—	—	—	—	—	—	—	—	—	99.0	0.00	99.0	9.89	0.00	—	346

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.20	7.20
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.20	7.20

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.20	7.20
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.20	7.20
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.19	1.19
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.19	1.19

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments High Rise	6,675	6,795	5,385	2,375,368	71,225	72,506	57,460	25,346,237

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments High Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	1500
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
2035125	678,375	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)

Apartments High Rise	5,498,751	532	0.0330	0.0040	16,660,264

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments High Rise	56,288,475	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments High Rise	1,109	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments High Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments High Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.03	annual days of extreme heat
Extreme Precipitation	3.50	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	1.31	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	58.2
AQ-PM	68.7
AQ-DPM	84.2
Drinking Water	53.2
Lead Risk Housing	28.7
Pesticides	11.8
Toxic Releases	91.4
Traffic	88.9
Effect Indicators	—
CleanUp Sites	97.3
Groundwater	99.0
Haz Waste Facilities/Generators	98.4
Impaired Water Bodies	83.0
Solid Waste	97.7
Sensitive Population	—
Asthma	17.0
Cardio-vascular	20.8
Low Birth Weights	54.8
Socioeconomic Factor Indicators	—
Education	49.2
Housing	39.2
Linguistic	59.4
Poverty	55.5
Unemployment	5.57

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	47.45284229
Employed	76.27357885
Median HI	69.01065058
Education	—
Bachelor's or higher	70.42217375
High school enrollment	100
Preschool enrollment	16.21968433
Transportation	—
Auto Access	57.21801617
Active commuting	69.0619787
Social	—
2-parent households	42.17887848
Voting	31.99024766
Neighborhood	—
Alcohol availability	44.80944437
Park access	28.53843193
Retail density	94.63621199
Supermarket access	58.28307455
Tree canopy	29.41100988
Housing	—
Homeownership	19.54317978
Housing habitability	30.20659566
Low-inc homeowner severe housing cost burden	97.88271526

Low-inc renter severe housing cost burden	75.33684075
Uncrowded housing	22.40472219
Health Outcomes	—
Insured adults	50.3143847
Arthritis	98.6
Asthma ER Admissions	82.6
High Blood Pressure	98.8
Cancer (excluding skin)	96.0
Asthma	65.7
Coronary Heart Disease	98.7
Chronic Obstructive Pulmonary Disease	94.6
Diagnosed Diabetes	98.6
Life Expectancy at Birth	99.4
Cognitively Disabled	52.2
Physically Disabled	81.6
Heart Attack ER Admissions	76.4
Mental Health Not Good	58.7
Chronic Kidney Disease	99.0
Obesity	94.5
Pedestrian Injuries	72.5
Physical Health Not Good	93.2
Stroke	98.4
Health Risk Behaviors	—
Binge Drinking	4.3
Current Smoker	42.3
No Leisure Time for Physical Activity	69.0
Climate Change Exposures	—

Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	25.4
Elderly	82.5
English Speaking	49.5
Foreign-born	80.9
Outdoor Workers	61.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	18.1
Traffic Density	92.8
Traffic Access	65.3
Other Indices	—
Hardship	52.6
Other Decision Support	—
2016 Voting	59.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64.0
Healthy Places Index Score for Project Location (b)	56.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Taken from client data
Construction: Construction Phases	Project start date taken from client data
Construction: Off-Road Equipment	T/L/B replaced with Crawler Tractor to accurately calculate disturbance for Site Preparation and Grading phases. Standard 8 hours work days.
Operations: Hearths	No fireplaces or woodstoves

Table 1: Off-Site Roadway Parameters

ID	Roadway	Segment	Classification[1]	Centerline Distance to Receiving Land Use (Feet)[2]	Vehicle Speed (mph)
1	Ada	Barranca Parway to Marine Way	Commuter	38'	40
2	Ada	Alton Parkway to Barranca PArkway	Primary	63'	40
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	Major	84'	50
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	Major	80'	50
5	Alton Parkway	East Yale Loop to Jeffrey Road	Primary	63'	50
6	Alton Parkway	Gateway Boulevard to Enterprise	Major	84'	50
7	Alton Parkway	Jeffrey Road to Royal Oak	Primary	63'	50
8	Alton Parkway	Daimler Street to Red Hill Avenue	Primary	63'	50
9	Alton Parkway	Culver Drive to West Yale Loop	Primary	63'	50
10	Alton Parkway	West Yale Loop to Lake Road	Primary	63'	50
11	Alton Parkway	Technology Drive West to Ada	Major	80'	50
12	Alton Parkway	Creek Road to East Yale Loop	Primary	63'	50
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	Primary	63'	50
14	Alton Parkway	Lake Road to Creek Road	Primary	63'	50
15	Alton Parkway	Telemetry to Banting	Primary	63'	50
16	Alton Parkway	Irvine Boulevard to Commercentre	Major	84'	50
17	Alton Parkway	Jenner to Telemetry	Primary	63'	50
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	Major	84'	50
19	Alton Parkway	Sand Canyon Avenue to Hospital	Primary	60'	50
20	Alton Parkway	Laguna Canyon Road to Jenner	Primary	63'	50
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	Major	84'	50
22	Alton Parkway	Royal Oak to Valley Oak Drive	Primary	63'	50
23	Alton Parkway	Banting to Pacifica	Primary	63'	50
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	Major	84'	50
25	Alton Parkway	Ada to Technology Drive East	Major	84'	50

Table 1

26	Alton Parkway	Von Karman Avenue to Jamboree Road	Primary	63'	50
27	Alton Parkway	Jeronimo Road to Hughes	Major	84'	50
28	Alton Parkway	Hughes to Morgan	Major	84'	50
29	Alton Parkway	Morgan to Toledo Way	Major	84'	50
30	Alton Parkway	San Marino to Culver Drive	Major	84'	50
31	Alton Parkway	Jamboree Road to Murphy Avenue	Major	84'	50
32	Alton Parkway	Hospital to Laguna Canyon Road	Primary	60'	50
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	Primary	60'	50
34	Alton Parkway	Murphy Avenue to Harvard Avenue	Major	84'	50
35	Alton Parkway	Foster to Irvine Boulevard	Major	84'	50
36	Alton Parkway	Fairbanks to Foster	Major	84'	50
37	Alton Parkway	Toledo Way to Bertea	Major	84'	50
38	Alton Parkway	Pacifica to Meridian	Primary	60'	50
39	Alton Parkway	Bertea to Fairbanks	Major	84'	50
40	Alton Parkway	Meridian to Irvine Center Drive	Major	84'	50
41	Alton Parkway	Paseo Westpark to San Marino	Major	84'	50
42	Alton Parkway	Harvard Avenue to Paseo Westpark	Major	84'	50
43	Astor	Lynx to Fairbanks	Commuter	38'	30
44	Astor	Cadence to Lynx	Commuter	38'	30
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	Major	100'	50
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	Major	84'	50
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	Major	100'	50
48	Bake Parkway	Jeronimo Road to Toledo Way	Major	84'	50
49	Bake Parkway	Toledo Way to Cromwell	Major	84'	50
50	Bake Parkway	Cromwell to Irvine Boulevard	Major	84'	50
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	Major	84'	50
52	Bake Parkway	Irvine Center Drive to Research Drive	Major	84'	50
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	Major	84'	50
54	Banting	Alton Parkway to Barranca Parkway	Primary	63'	35
55	Barranca Parkway	Pacifica to Irvine Center Drive	Primary	63'	55
56	Barranca Parkway	Banting to Pacifica	Primary	63'	55

Table 1

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	Primary	63'	55
58	Barranca Parkway	Technology Drive West to Ada	Primary	63'	55
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	Primary	63'	55
60	Barranca Parkway	Culver Drive to West Yale Loop	Primary	63'	55
61	Barranca Parkway	East Yale Loop to Jeffrey Road	Primary	63'	55
62	Barranca Parkway	West Yale Loop to Lake Road	Primary	63'	55
63	Barranca Parkway	Ada to Alton Parkway	Primary	63'	55
64	Barranca Parkway	Lake Road to Creek Road	Primary	63'	55
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	Major	100'	55
66	Barranca Parkway	Discovery/Herchel to Banting	Primary	63'	55
67	Barranca Parkway	Lyon to East Yale Loop	Primary	63'	55
68	Barranca Parkway	Creek Road to Lyon	Primary	63'	55
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	Major	80'	55
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	Primary	63'	55
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	Major	80'	55
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	Primary	63'	55
73	Barranca Parkway	Jamboree Road to Construction Circle	Major	84'	55
74	Barranca Parkway	Santa Rosa to Culver Drive	Major	84'	55
75	Barranca Parkway	FedEx to Discovery/Herchel	Primary	63'	55
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	Primary	63'	55
77	Barranca Parkway	Laguna Canyon Road to FedEx	Primary	63'	55
78	Barranca Parkway	Pullman Street to Red Hill Avenue	Major	100'	55
79	Barranca Parkway	Construction Circle to Fire Station	Major	84'	55
80	Barranca Parkway	Fire Station to Harvard Avenue	Major	84'	55
81	Barranca Parkway	Paseo Westpark to Santa Rosa	Major	84'	55
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	Major	84'	55
83	Bay Tree	Trabuco Road to Roosevelt	Primary	63'	35
84	Beacon	Ridge Valley to Benchmark	Commuter	38'	30
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	Commuter	38'	30
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	Primary	63'	45
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	Primary	75'	50

Table 1

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	Primary	75'	50
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	Primary	75'	50
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	Primary	75'	50
91	Bosque	Cadence to Great Park Boulevard	Commuter	38'	30
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	Commuter	38'	30
93	Bosque	Benchmark to Cadence	Commuter	38'	30
94	Bosque	Great Park Boulevard to Beacon	Commuter	38'	30
95	Bosque	Beacon to S 5th Street	Commuter	38'	30
96	Bryan Avenue	Jamboree Road to Market Place	Primary	63'	45
97	Bryan Avenue	Market Place to El Camino Real	Primary	63'	45
98	Bryan Avenue	Rubicon to Culver Drive	Primary	63'	45
99	Bryan Avenue	El Camino Real to Rubicon	Primary	63'	45
100	Bryan Avenue	Eastwood to Jeffrey Road	Primary	63'	45
101	Bryan Avenue	Westwood to Yale Avenue	Primary	63'	45
102	Bryan Avenue	Culver Drive to Westwood	Primary	63'	45
103	Bryan Avenue	Yale Avenue to Eastwood	Primary	63'	45
104	Cadence	Pusan to Chinon	Commuter	38'	40
105	Cadence	Bosque to Pusan	Commuter	38'	40
106	Cadence	Ridge Valley (O Street) to Bosque	Commuter	38'	40
107	Cadence	Chinon to Merit	Commuter	38'	40
108	Cadence	Merit to Astor	Commuter	38'	40
109	California Avenue	University Drive to Academy Way	Primary	63'	40
110	California Avenue	Campus Drive to Harvard Avenue	Primary	63'	40
111	California Avenue	Theory to Bison Avenue	Primary	63'	40
112	Campus Drive	Carlson Avenue to University Drive	Commuter	50'	50
113	Campus Drive	University Drive to Bridge Road	Primary	63'	50
114	Campus Drive	Jamboree Road to Carlson Avenue	Primary	63'	50
115	Campus Drive	Stanford Court to Berkeley Avenue	Primary	63'	50
116	Campus Drive	California Avenue to Culver Drive	Primary	63'	50
117	Campus Drive	Berkeley Avenue to Cornell	Primary	63'	50
118	Campus Drive	Martin to Von Karman Avenue	Primary	63'	50

Table 1

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	Primary	63'	50
120	Campus Drive	Von Karman Avenue to Teller Avenue	Primary	63'	50
121	Campus Drive	MacArthur Boulevard to Martin	Primary	63'	50
122	Campus Drive	Teller Avenue to Jamboree Road	Primary	63'	50
123	Carlson Avenue	Michelson Drive to Campus Drive	Primary	63'	50
124	Chinon	Irvine Boulevard to Cadence	Commuter	38'	25
125	Creek Road	Alton Parkway to Barranca Parkway	Primary	63'	25
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	Major	84'	55
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	Major	84'	55
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	Major	84'	55
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	Major	84'	55
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	Major	84'	55
131	Culver Drive	San Leandro to Main Street	Major	84'	55
132	Culver Drive	Harvard Avenue to University Drive	Major	84'	55
133	Culver Drive	Trabuco Road to Farwell Avenue	Major	80'	55
134	Culver Drive	Alton Parkway to Barranca Parkway	Major	84'	55
135	Culver Drive	Main Street to Alton Parkway	Major	84'	55
136	Culver Drive	Warner Avenue to Irvine Center Drive	Major	84'	55
137	Culver Drive	Walnut Avenue to Scottsdale Dive	Major	84'	55
138	Culver Drive	Barranca Parkway to Warner Avenue	Major	84'	55
139	Culver Drive	Shady Canyon Drive to Palo Verde	Primary	63'	55
140	Culver Drive	Deerfield Avenue to Walnut Avenue	Major	84'	55
141	Culver Drive	Sandburg Way to Michelson Drive	Major	84'	55
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	Major	84'	55
143	Culver Drive	Palo Verde to Campus Drive	Primary	63'	55
144	Culver Drive	University Drive to Sandburg Way	Major	84'	55
145	Culver Drive	Farwell Avenue to Bryan Avenue	Major	80'	55
146	Culver Drive	Campus Drive to High School	Major	84'	55
147	Culver Drive	High School to Harvard Avenue	Major	84'	55
148	Culver Drive	Bryan Avenue to Florence	Major	84'	55
149	Culver Drive	Portola Parkway to Settlers	Primary	63'	55

Table 1

150	Culver Drive	Florence to Irvine Boulevard	Major	84'	55
151	Culver Drive	Irvine Boulevard to Viewpark	Major	84'	55
152	Culver Drive	Viewpark to Meadowood	Major	84'	55
153	Culver Drive	Settlers to Furrow	Primary	63'	55
154	Culver Drive	Meadowood to Portola Parkway	Major	84'	55
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	Primary	63'	40
156	Discovery Drive	Waterworks Way to Irvine Center Drive	Primary	63'	40
157	East Yale Loop	Alton Parkway to Witherspoon	Primary	63'	40
158	East Yale Loop	Osborn Street to Barranca Parkway	Primary	63'	40
159	East Yale Loop	Yale Avenue to Springbrook South	Primary	63'	40
160	East Yale Loop	Springbrook North to Alton Parkway	Primary	63'	40
161	East Yale Loop	Woodspring to Yale Avenue	Primary	63'	40
162	East Yale Loop	Barranca Parkway to Eastshore	Primary	63'	40
163	Eastwood	Bryan Avenue to Monticello	Commuter	38'	35
164	Eastwood	Columbus to Bryan Avenue	Commuter	38'	35
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	Primary	63'	40
166	El Camino Real North	El Camino Real to Bryan Avenue	Primary	63'	40
167	Fairbanks	Alton Parkway to Astor	Commuter	38'	40
168	Fairbanks	Irvine Boulevard to Alton Parkway	Commuter	38'	40
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	Primary	63'	45
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	Primary	63'	30
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	Primary	63'	30
172	Gateway Boulevard	Irvine Center Drive to Meridian	Primary	63'	30
173	Great Park Boulevard	Sand Canyon to Ridge Valley	Primary	60'	50
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	Primary	63'	50
175	Great Park Boulevard (EB)	Bosque to Skyhawk	Commuter	38'	50
176	Great Park Boulevard (WB)	Bosque to Skyhawk	Commuter	38'	50
177	Harvard Avenue	University Drive to Michelson Drive	Commuter	38'	45
178	Harvard Avenue	Michelson Drive to Coronado	Primary	63'	45
179	Harvard Avenue	San Marino to Alton Parkway	Primary	63'	45
180	Harvard Avenue	Coronado to Main Street	Primary	63'	45

Table 1

181	Harvard Avenue	San Carlo to San Marino	Primary	63'	45
182	Harvard Avenue	Main Street to San Carlo	Primary	63'	45
183	Harvard Avenue	Alton Parkway to San Leon	Primary	63'	45
184	Harvard Avenue	San Juan to Barranca Parkway	Primary	63'	45
185	Harvard Avenue	San Leon to San Juan	Primary	63'	45
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	Primary	63'	45
187	Harvard Avenue	Deerfield Avenue to Poplar Street	Primary	63'	45
188	Harvard Avenue	Barranca Parkway to Warner Avenue	Primary	63'	45
189	Harvard Avenue	Bridge Road to University Drive	Primary	63'	45
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	Primary	63'	45
191	Harvard Avenue	Poplar Street to Walnut Avenue	Commuter	50'	45
192	Harvard Avenue	California Avenue to Berkeley Avenue	Primary	63'	45
193	Harvard Avenue	Culver Drive to California Avenue	Primary	63'	45
194	Harvard Avenue	Berkeley to Bridge Road	Primary	63'	45
195	Harvard Avenue	Warner Avenue to Paseo Westpark	Primary	63'	45
196	Hicks Canyon Drive	Delamesa to Yale Avenue	Commuter	50'	35
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	Commuter	38'	25
198	Hubble	Irvine Center Drive to Bunsen	Commuter	38'	25
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	Major	84'	55
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	Major	84'	55
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	Major	80'	55
202	Irvine Boulevard	Merit to Alton	Major	84'	55
203	Irvine Boulevard	Journey to Sand Canyon Avenue	Major	84'	55
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	Major	84'	55
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	Major	84'	55
206	Irvine Boulevard	Palo Lado to Yale Avenue	Major	84'	55
207	Irvine Boulevard	Culver Drive to Palo Lado	Major	84'	55
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	Major	84'	55
209	Irvine Boulevard	Old Myford Road to Market Place	Major	84'	55
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	Major	84'	55
211	Irvine Boulevard	Jamboree Road to Old Myford Road	Major	84'	55

Table 1

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	Major	84'	55
213	Irvine Boulevard	Jeffrey Road to Groveland	Major	84'	55
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	Major	84'	55
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to Jeffrey Road	Major	84'	55
216	Irvine Boulevard	Chinon (B Street) to Merit	Major	84'	55
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	Major	84'	55
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	Major	84'	55
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	Major	84'	55
220	Irvine Boulevard	Modjeska to Pusan Way	Major	84'	55
221	Irvine Boulevard	Central Park Avenue to Culver Drive	Major	84'	55
222	Irvine Boulevard	Parker to Bake Parkway	Major	84'	55
223	Irvine Boulevard	Alton Parkway to Fairbanks	Major	84'	55
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	Major	80'	50
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	Major	84'	50
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	Major	80'	50
227	Irvine Center Drive	Irvine Valley College to Orange Tree	Major	84'	50
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	Major	84'	50
229	Irvine Center Drive	Culver Drive to Deerwood	Major	84'	50
230	Irvine Center Drive	Deerwood to Yale Avenue	Major	84'	50
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	Major	84'	50
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	Major	84'	50
233	Irvine Center Drive	Alton Parkway to Spectrum	Major	84'	50
234	Irvine Center Drive	Spectrum to Pacifica	Major	84'	50
235	Irvine Center Drive	Hearthstone to Culver Drive	Major	84'	50
236	Irvine Center Drive	Charter to Barranca Parkway	Major	84'	50
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	Major	84'	50
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	Major	84'	50
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	Major	84'	50
240	Irvine Center Drive	Harvard Avenue to Hearthstone	Major	84'	50
241	Irvine Center Drive	Research to Hubble	Major	84'	50
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	Major	84'	50

Table 1

243	Irvine Center Drive	Bake Parkway to Muller	Major	84'	50
244	Irvine Center Drive	Discovery to Charter	Major	84'	50
245	Irvine Center Drive	Hubble to Bake Parkway	Major	84'	50
246	Irvine Center Drive	Muller to Tesla	Major	84'	50
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	Major	84'	50
248	Irvine Center Drive	Tesla to Scientific Way	Major	84'	50
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	Major	84'	50
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	Major	84'	50
251	Irvine Center Drive	Laguna Canyon Road to Discovery	Major	84'	50
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	Major	84'	50
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	Major	84'	50
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	Major	84'	55
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	Major	80'	55
256	Jamboree Road	Walnut Avenue to Michelle Drive	Major	84'	55
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	Major	100'	55
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	Major	84'	55
259	Jamboree Road	Main Street to Kelvin Avenue	Major	100'	55
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	Major	110'	55
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	Major	100'	55
262	Jamboree Road	McGaw Avenue to Alton Parkway	Major	100'	55
263	Jamboree Road	Birch Street to Campus Drive	Major	84'	55
264	Jamboree Road	Dupont Drive to Michelson Drive	Major	80'	55
265	Jamboree Road	Alton Parkway to Beckman	Major	100'	55
266	Jamboree Road	Fairchild Road to Birch Street	Major	80'	55
267	Jamboree Road	Beckman to Barranca Parkway	Major	100'	55
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	Major	100'	55
269	Jamboree Road	Campus Drive to Dupont Drive	Major	80'	55
270	Jamboree Road	El Camino Real to West Drive	Major	100'	55
271	Jamboree Road	West Drive to Bryan Avenue	Major	100'	55
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	Major	100'	55
273	Jamboree Road	Koll Center to Fairchild Road	Major	80'	55

Table 1

274	Jamboree Road	MacArthur Boulevard to Koll Center	Major	80'	55
275	Jamboree Road	Irvine Boulevard to Portola Pakway	Major	84'	55
276	Jamboree Road	Warner Avenue to Edinger Avenue	Expressway	64'	55
277	Jamboree Road	Barranca Parkway to Warner Avenue	Expressway	64'	55
278	Jamboree Road	Edinger Avenue to Walnut Avenue	Expressway	64'	55
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	Major	84'	45
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	Major	80'	45
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	Major	84'	45
282	Jeffrey Road	Alton Parkway to Barranca Parkway	Major	84'	45
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	Major	84'	45
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	Major	84'	45
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	Major	84'	45
286	Jeffrey Road	Quail Creek to Alton Parkway	Major	84'	45
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	Major	84'	45
288	Jeffrey Road	Trabuco Road to Hideaway	Major	84'	45
289	Jeffrey Road	Hideaway to Bryan Avenue	Major	84'	45
290	Jeffrey Road	Roosevelt to Grove	Major	80'	45
291	Jeffrey Road	Grove to Trabuco Road	Major	80'	45
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	Major	84'	45
293	Jeffrey Road	Encore to Portola Parkway	Major	84'	45
294	Jeffrey Road	Irvine Boulevard to Encore	Major	84'	45
295	Jeronimo Road	Goodyear to Bake Parkway	Primary	63'	45
296	Jeronimo Road	Alton Parkway to Goodyear	Primary	63'	45
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	Major	84'	55
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	Primary	63'	55
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	Primary	63'	55
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	Commuter	50'	50
301	Laguna Canyon Road	Irvine Center Drive to Discovery	Primary	63'	55
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	Commuter	50'	50
303	Laguna Canyon Road	Pasteur to Alton Parkway	Primary	63'	55
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	Primary	63'	55

Table 1

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	Primary	63'	55
306	Laguna Canyon Road	Barranca Parkway to Waterworks	Primary	63'	55
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	Primary	63'	50
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	Primary	63'	50
309	Lake Forest Drive	Tesla to Bake Parkway	Major	84'	50
310	Lake Road	Alton Parkway to Barranca Parkway	Commuter	50'	25
311	Lynx	Irvine Boulevard to Astor	Commuter	38'	25
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	Major	100'	60
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	Major	100'	60
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	Major	100'	60
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	Major	84'	45
316	MacArthur Boulevard	Fairchild Road to University Drive	Major	84'	45
317	MacArthur Boulevard	Fitch to Red Hill Avenue	Major	80'	45
318	MacArthur Boulevard	Michelson Drive to Douglas	Major	100'	45
319	MacArthur Boulevard	Douglas to Campus Drive	Major	100'	45
320	MacArthur Boulevard	Skypark to Main Street	Major	80'	45
321	MacArthur Boulevard	Redhill Avenue to Skypark	Major	84'	45
322	MacArthur Boulevard	Birch Street to Jamboree Road	Major	84'	45
323	MacArthur Boulevard	Campus Drive to Birch Street	Major	100'	45
324	Main Street	Gillette Avenue to Von Karman Avenue	Major	80'	45
325	Main Street	MacArthur Boulevard to Mercantile	Major	80'	45
326	Main Street	Executive Park to MacArthur Boulevard	Major	84'	45
327	Main Street	Von Karman Avenue to Cartwright	Major	84'	45
328	Main Street	McDurmott to Red Hill Avenue	Major	84'	45
329	Main Street	Red Hill Avenue to Executive Circle	Major	84'	45
330	Main Street	Jamboree Road to Union	Major	84'	45
331	Main Street	Culver Drive to West Yale Loop	Primary	63'	45
332	Main Street	Siglo to Jamboree Road	Major	84'	45
333	Main Street	Veneto to Harvard Avenue	Major	84'	45
334	Main Street	Paseo Westpark to Culver Drive	Primary	63'	45
335	Main Street	Harvard Avenue to San Mateo	Primary	63'	45

Table 1

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	Commuter	50'	40
337	Marine Way	Alton Parkway to Bake Parkway	Primary	63'	40
338	Marine Way	Lynx to Barranca Parkway	Primary	63'	40
339	Marine Way	County Access to Treble	Primary	63'	40
340	Marine Way	Ridge Valley (O Street) to Skyhawk	Primary	63'	40
341	Marine Way	Skyhawk to County Access	Primary	63'	40
342	Marine Way	Barranca Parkway to Alton Parkway	Primary	63'	40
343	Marine Way	Treble to Lynx	Primary	63'	40
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	Primary	63'	35
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	Primary	63'	35
346	McGaw Avenue	Daimler to Red Hill Avenue	Primary	63'	35
347	McGaw Avenue	Jamboree Road to Murphy Avenue	Primary	63'	35
348	Meadowood	Culver Drive to Canyonwood	Primary	63'	25
349	Meridian	Spectrum to Alton Parkway	Primary	63'	30
350	Meridian	Alton Parkway to Gateway Boulevard	Primary	63'	30
351	Merit	Irvine Boulevard to Cadence	Commuter	38'	25
352	Michelson Drive	Riparian to Harvard Avenue	Primary	63'	40
353	Michelson Drive	Almond Tree Lane to Yale Avenue	Commuter	38'	40
354	Michelson Drive	Von Karman Avenue to Obsidian	Primary	63'	40
355	Michelson Drive	Parkside to Culver Drive	Primary	63'	40
356	Michelson Drive	Gillman to Seton/Sandburg Way	Commuter	38'	40
357	Michelson Drive	Carlson to Prince	Primary	75'	40
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	Primary	63'	40
359	Michelson Drive	Harvard Avenue to Parkside	Primary	63'	40
360	Michelson Drive	Bixby to Von Karman Avenue	Primary	63'	40
361	Michelson Drive	Jamboree Road to Carlson	Primary	60'	40
362	Michelson Drive	Teller to Jamboree Road	Primary	60'	40
363	Michelson Drive	Jordan East to University Drive	Secondary	30'	40
364	Michelson Drive	Culver Drive to Angell	Primary	40'	40
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	Commuter	30'	45
366	Modjeska (A Street)	South of Irvine Boulevard	Commuter	38'	45

Table 1

367	Muirlands Boulevard	Bake Parkway to City Limits	Primary	63'	45
368	Muirlands Boulevard	Alton Parkway to Sterling	Primary	63'	45
369	Muirlands Boulevard	Wrigley to Bake Parkway	Primary	63'	45
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	Primary	63'	40
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	Primary	63'	40
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	Primary	63'	30
373	Northwood	Yale Avenue to Savannah	Commuter	38'	35
374	Northwood	Goldrush to Yale Avenue	Commuter	38'	35
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	Commuter	38'	45
376	Pacifica	Gateway to Barranca Parkway	Primary	63'	40
377	Pacifica	Alton Parkway to Gateway	Primary	63'	40
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	Primary	63'	40
379	Pacifica	Meridian to Alton Parkway	Primary	63'	40
380	Park Place	Christamon South to Yale Avenue	Primary	63'	30
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	Primary	63'	55
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	Primary	63'	55
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	Primary	63'	55
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	Primary	63'	55
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	Primary	63'	55
386	Portola Parkway	Gatepark to Culver Drive	Major	84'	55
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	Major	84'	55
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	Major	84'	55
389	Portola Parkway	Jamboree Road to Bellevue	Major	84'	55
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	Major	84'	55
391	Portola Parkway	Yale Avenue to Jeffrey Road	Major	84'	55
392	Portola Parkway	Culver Drive to Yale Avenue	Major	84'	55
393	Portola Parkway	Silverado to Portola Springs	Primary	63'	55
394	Pusan	Irvine Boulevard to Cadence	Commuter	38'	25
395	Quail Hill Parkway	Shady Canyon Drive to Passage	Primary	63'	45
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	Primary	63'	45
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	Primary	40'	25

Table 1

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	Major	84'	50
399	Red Hill Avenue	I-405 Over Crossing to Main Street	Primary	63'	50
400	Red Hill Avenue	Alton Parkway to Deere Avenue	Major	84'	50
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	Major	84'	50
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	Major	84'	50
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	Primary	60'	50
404	Red Hill Avenue	Main Street to Skypark East	Primary	60'	50
405	Research Drive	Hubble to Bake Parkway	Primary	63'	45
406	Research Drive	Scientific to Lake Forest Drive	Primary	63'	45
407	Research Drive	Bake Parkway to Muller	Primary	63'	45
408	Research Drive	Irvine Center Drive to Bunsen	Primary	63'	45
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	Primary	63'	45
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	Primary	63'	45
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	Primary	63'	45
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	Commuter	38'	45
413	Ridgeline Drive	Concordia East to University Drive	Secondary	40'	35
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	Secondary	40'	35
415	Rockfield Avenue	Whatney to McLaren	Primary	63'	45
416	Rockfield Avenue	Bake Parkway to Whatney	Primary	63'	45
417	Rockfield Avenue	Thomas to Bake Parkway	Primary	63'	45
418	Roosevelt	Jeffrey Road to Vision	Primary	63'	40
419	Roosevelt	Yale Avenue to Van Buren	Commuter (Divided)	30'	40
420	Roosevelt	Vision to Bay Tree	Primary	63'	40
421	Roosevelt	Nimitz to Jeffrey Road	Primary	63'	40
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	Primary	63'	40
423	Royal Oak	Alton Parkway to Eaglecreek	Commuter (Divided)	30'	35
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	Major	84'	50
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	Major	84'	50
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	Primary	60'	50
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	Major	80'	50
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	Major	100'	50

Table 1

429	Sand Canyon Avenue	Trabuco Road to Towngate	Major	84'	50
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	Major	84'	50
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	Major	100'	50
432	Sand Canyon Avenue	Hospital to Barranca Parkway	Major	84'	50
433	Sand Canyon Avenue	Nightmist to Roosevelt	Major	100'	50
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	Primary	60'	50
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	Major	100'	50
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	Major	84'	50
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	Major	84'	50
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	Primary	63'	50
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	Major	100'	50
440	Sand Canyon Avenue	Alton Parkway to Hospital	Major	80'	50
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	Primary	60'	50
442	Scientific Way	Irvine Center Drive to Wald	Primary	63'	35
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	Commuter	38'	50
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	Commuter	50'	50
445	Skyhawk	Great Park Boulevard to Marine Way	Primary	63'	25
446	Southwood	Yale Avenue to Colt	Commuter	38'	35
447	Southwood	Challenger to Yale Avenue	Commuter	38'	35
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	Primary	63'	30
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	Primary	63'	30
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	Primary	63'	25
451	Technology Drive	Barranca Parkway to Alton Parkway	Primary	63'	45
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	Primary	63'	45
453	Technology Drive	I-5/SR-133 to Barranca Parkway	Primary	63'	45
454	Technology Drive	Ada to Alton Parkway	Primary	63'	45
455	Toledo Way	Bake Parkway to City Limits	Primary	63'	50
456	Toledo Way	Goodyear to Bake Parkway	Primary	63'	50
457	Toledo Way	Alton Parkway to Parker	Primary	63'	50
458	Trabuco Road	Keystone to Sand Canyon Avenue	Primary	63'	45
459	Trabuco Road	Jeffrey Road to Keystone	Primary	63'	45

Table 1

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	Primary	63'	45
461	Trabuco Road	Monroe to Yale Avenue	Primary	63'	45
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	Primary	63'	45
463	Trabuco Road	Yale Avenue to Remington	Primary	63'	45
464	Trabuco Road	Remington to Jeffrey Road	Primary	63'	45
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	Primary	63'	45
466	Turtle Rock Drive	Ridgeline to Willowleaf	Commuter	38'	45
467	Turtle Rock Drive	Silkwood to Sunnyhill	Commuter	38'	45
468	Turtle Rock Drive	Canyon Park to Ridgeline	Commuter	38'	45
469	Turtle Rock Drive	Sunnyhill to Southernwood	Commuter	38'	45
470	Turtle Rock Drive	Campus Drive to Hillgate	Primary	63'	45
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	Secondary	40'	45
472	University Drive	Golden Glow to Yale Avenue	Primary	63'	50
473	University Drive	Ridgeline to Michelson Drive	Primary	75'	50
474	University Drive	Culver Drive to Golden Glow	Primary	63'	50
475	University Drive	Yale Avenue to Ridgeline	Primary	63'	50
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	Major	84'	50
477	University Drive	Mesa to Campus Drive	Primary	60'	50
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	Primary	60'	50
479	University Drive	California Avenue to Mesa	Primary	60'	50
480	University Drive	Campus Drive to Harvard Avenue	Major	84'	50
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	Major	50'	50
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	Major	84'	50
483	University Drive	San Joaquin to Culver Drive	Major	84'	50
484	University Drive	Harvard Avenue to San Joaquin	Major	84'	50
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	Primary	63'	50
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	Commuter	50'	50
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	Primary	63'	50
488	Valley Oak Drive	Alton Parkway to Hawkcreek	Primary	63'	50
489	Von Karman Avenue	Marriott to Morse Avenue	Primary	63'	45
490	Von Karman Avenue	Michelson Drive to Quartz	Primary	63'	45

Table 1

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	Primary	63'	45
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	Primary	75'	45
493	Von Karman Avenue	Main Street to Anchor	Primary	63'	45
494	Von Karman Avenue	Anchor to McGaw Avenue	Primary	63'	45
495	Von Karman Avenue	Morse to Main Street	Primary	63'	45
496	Von Karman Avenue	Martin to Dupont Drive	Primary	63'	45
497	Von Karman Avenue	Campus Drive to Martin	Primary	63'	45
498	Von Karman Avenue	Dupont Drive to Michelson Drive	Primary	63'	45
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	Primary	63'	45
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	Primary	63'	45
501	Walnut Avenue	The Mall Street to Culver Drive	Primary	63'	45
502	Walnut Avenue	Harvard Avenue to The Mall Street	Primary	63'	45
503	Walnut Avenue	Franciscan Street to Ravenwood Street	Primary	63'	45
504	Walnut Avenue	Ravenwood Street to Yale Avenue	Primary	63'	45
505	Walnut Avenue	Culver Drive to Franciscan Street	Primary	63'	45
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	Major	84'	45
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	Major	84'	45
508	Walnut Avenue	Yale Avenue to Kazan Street	Primary	63'	45
509	Walnut Avenue	Wisteria to Jeffrey Road	Primary	63'	45
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	Primary	63'	45
511	Warner Avenue	Construction North to Harvard Avenue	Primary	63'	45
512	Warner Avenue	Harvard Avenue to Paseo Westpark	Primary	63'	45
513	Warner Avenue	Santa Ynez to Culver Drive	Primary	63'	45
514	Warner Avenue	Culver Drive to West Yale Loop	Primary	63'	45
515	West Yale Loop	Alton Parkway to Blue Lake North	Primary	63'	40
516	West Yale Loop	Eagle Run to Main Street	Primary	63'	40
517	West Yale Loop	Thunder Run to Yale Avenue	Primary	63'	40
518	West Yale Loop	Main Street to Timber Run	Primary	63'	40
519	West Yale Loop	Yale Avenue to Shorebird	Primary	63'	40
520	West Yale Loop	Warner Avenue to Stonecreek South	Primary	63'	40
521	West Yale Loop	Barranca Parkway to Alton Parkway	Primary	63'	40

Table 1

522	West Yale Loop	Stonecreek North to Warner Avenue	Primary	63'	40
523	West Yale Loop	Birdsong to Barranca Parkway	Primary	63'	40
524	Westwood	Yorktown to Bryan Avenue	Commuter	38'	35
525	Westwood	Bryan Avenue to Leaf	Commuter	38'	35
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	Commuter	38'	45
527	Yale Avenue	Hicks Canyon Drive to Meadowood	Commuter	38'	45
528	Yale Avenue	Walnut Avenue to Roosevelt	Secondary	40'	45
529	Yale Avenue	Roosevelt to Trabuco Road	Primary	63'	45
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	Primary	63'	45
531	Yale Avenue	West Yale Loop to Irvine Center Drive	Primary	63'	45
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	Primary	63'	45
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	Primary	63'	45
534	Yale Avenue	Trabuco Road to Southwood	Primary	63'	45
535	Yale Avenue	Southwood to Bryan Avenue	Primary	63'	45
536	Yale Avenue	Northwood to Irvine Boulevard	Primary	63'	45
537	Yale Avenue	Bryan Avenue to Monticello	Primary	63'	45
538	Yale Avenue	Irvine Boulevard to Park Place	Primary	63'	45
539	Yale Avenue	University Drive to Royce	Commuter	50'	45
540	Yale Court	Arborwood to Portola Parkway	Commuter	38'	25

[1] City of Irvine General Plan.

[2] Based upon the right-of-way distances for each roadway classification provided in the General Plan and Project Traffic Report.

Table 2: Average Daily Traffic Volumes

ID	Roadway	Segment	Average Daily Traffic Volumes[1]					
			Existing	Current General Plan	Conservative	Cumulative Conservative	Preferred	Muulative Preferred
1	Ada	Barranca Parway to Marine Way	0	0	23,114	23,117	23,050	23,050
2	Ada	Alton Parkway to Barranca PArkway	4,000	19,232	31,726	31,720	31,443	31,284
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	42,200	56,884	81,472	81,648	76,615	76,734
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	45,900	60,594	86,184	86,442	80,851	80,974
5	Alton Parkway	East Yale Loop to Jeffrey Road	29,100	30,534	32,626	32,830	32,166	32,275
6	Alton Parkway	Gateway Boulevard to Enterprise	26,800	35,234	49,611	49,714	46,610	46,790
7	Alton Parkway	Jeffrey Road to Royal Oak	22,000	23,495	26,386	26,627	25,401	25,682
8	Alton Parkway	Daimler Street to Red Hill Avenue	5,000	23,780	25,087	25,127	24,851	24,892
9	Alton Parkway	Culver Drive to West Yale Loop	23,600	24,362	25,096	25,181	24,627	24,826
10	Alton Parkway	West Yale Loop to Lake Road	23,100	23,892	25,022	25,249	24,512	24,661
11	Alton Parkway	Technology Drive West to Ada	29,800	39,191	52,329	52,629	49,987	49,944
12	Alton Parkway	Creek Road to East Yale Loop	22,100	23,067	24,792	24,987	24,159	24,400
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	13,900	21,216	24,224	24,832	23,510	24,050
14	Alton Parkway	Lake Road to Creek Road	21,800	22,890	23,527	23,753	22,987	23,143
15	Alton Parkway	Telemetry to Banting	17,100	20,313	23,656	23,832	23,191	23,349
16	Alton Parkway	Irvine Boulevard to Commercentre	33,800	39,324	37,812	38,199	38,024	38,497
17	Alton Parkway	Jenner to Telemetry	17,000	20,130	23,298	23,455	22,846	22,981
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	22,900	30,165	41,786	42,235	39,281	39,393
19	Alton Parkway	Sand Canyon Avenue to Hospital	26,100	36,781	36,925	37,175	37,094	37,269
20	Alton Parkway	Laguna Canyon Road to Jenner	17,000	19,926	22,824	22,971	22,385	22,495
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	25,800	34,162	41,377	41,733	37,771	38,222
22	Alton Parkway	Royal Oak to Valley Oak Drive	18,800	20,001	21,871	22,072	21,298	21,595
23	Alton Parkway	Banting to Pacifica	14,800	18,390	21,569	21,772	21,046	21,170
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	32,200	33,762	39,021	39,264	33,513	33,780
25	Alton Parkway	Ada to Technology Drive East	26,200	32,909	36,707	36,976	33,970	33,965
26	Alton Parkway	Von Karman Avenue to Jamboree Road	15,900	17,845	20,273	20,473	19,636	19,836
27	Alton Parkway	Jeronimo Road to Hughes	29,900	30,838	30,649	30,700	31,395	31,395
28	Alton Parkway	Hughes to Morgan	28,300	29,010	29,715	29,715	29,715	29,715
29	Alton Parkway	Morgan to Toledo Way	23,900	24,745	25,331	25,439	25,095	25,095
30	Alton Parkway	San Marino to Culver Drive	23,900	24,868	25,956	26,151	25,417	25,692

Table 2

31	Alton Parkway	Jamboree Road to Murphy Avenue	20,000	22,978	25,156	26,387	24,653	25,799
32	Alton Parkway	Hospital to Laguna Canyon Road	18,700	22,303	25,499	25,755	24,790	25,005
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	20,500	22,026	24,321	24,481	23,843	24,016
34	Alton Parkway	Murphy Avenue to Harvard Avenue	20,300	22,029	24,016	25,087	23,566	24,679
35	Alton Parkway	Foster to Irvine Boulevard	19,700	24,872	23,305	23,532	23,154	23,362
36	Alton Parkway	Fairbanks to Foster	17,800	23,257	22,341	22,575	21,916	22,132
37	Alton Parkway	Toledo Way to Bertea	20,800	21,840	21,840	21,840	21,840	21,840
38	Alton Parkway	Pacifica to Meridian	14,800	18,738	23,324	23,780	22,678	22,898
39	Alton Parkway	Bertea to Fairbanks	20,300	21,315	21,315	21,315	21,315	21,315
40	Alton Parkway	Meridian to Irvine Center Drive	14,400	17,783	21,018	21,241	20,601	20,652
41	Alton Parkway	Paseo Westpark to San Marino	19,400	19,914	21,047	21,248	20,504	20,780
42	Alton Parkway	Harvard Avenue to Paseo Westpark	15,500	16,294	18,516	19,161	17,861	18,451
43	Astor	Lynx to Fairbanks	2,200	19,138	19,799	20,000	19,393	19,506
44	Astor	Cadence to Lynx	0	15,633	14,995	15,144	14,767	14,820
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	71,500	91,457	98,304	98,423	95,631	95,791
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	58,900	60,885	62,986	63,562	61,319	61,823
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	61,900	66,745	67,539	67,848	66,285	66,605
48	Bake Parkway	Jeronimo Road to Toledo Way	48,500	49,574	51,196	51,605	49,538	49,866
49	Bake Parkway	Toledo Way to Cromwell	44,900	45,682	46,627	46,916	45,757	46,021
50	Bake Parkway	Cromwell to Irvine Boulevard	43,400	45,725	45,084	45,418	45,473	45,675
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	22,100	26,918	28,944	29,328	28,172	28,545
52	Bake Parkway	Irvine Center Drive to Research Drive	8,000	9,085	9,673	10,154	9,545	9,944
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	4,900	6,286	6,866	7,404	6,811	7,379
54	Banting	Alton Parkway to Barranca Parkway	3,000	4,452	5,569	5,549	5,427	5,367
55	Barranca Parkway	Pacifica to Irvine Center Drive	19,100	24,831	36,132	36,249	34,247	34,481
56	Barranca Parkway	Banting to Pacifica	19,900	25,806	32,152	32,424	31,312	31,533
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	16,200	20,598	33,565	33,665	31,030	31,208
58	Barranca Parkway	Technology Drive West to Ada	18,700	23,700	31,332	31,494	30,409	30,730
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	14,300	20,207	30,796	30,886	28,916	29,070
60	Barranca Parkway	Culver Drive to West Yale Loop	26,400	26,675	28,434	28,530	27,904	28,213
61	Barranca Parkway	East Yale Loop to Jeffrey Road	24,700	25,229	28,062	28,336	27,289	27,535
62	Barranca Parkway	West Yale Loop to Lake Road	24,500	25,495	27,146	27,246	26,674	26,880
63	Barranca Parkway	Ada to Alton Parkway	17,800	28,456	27,638	27,756	26,859	27,022
64	Barranca Parkway	Lake Road to Creek Road	22,400	23,501	25,488	25,599	24,910	25,130
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	35,300	44,978	48,793	49,503	47,771	48,369

Table 2

66	Barranca Parkway	Discovery/Herchel to Banting	15,900	21,685	24,618	24,817	24,148	24,373
67	Barranca Parkway	Lyon to East Yale Loop	21,300	21,895	24,159	24,364	23,579	23,735
68	Barranca Parkway	Creek Road to Lyon	20,900	21,564	23,764	23,971	23,163	23,344
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	31,400	38,982	42,548	42,568	41,461	41,730
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	12,000	19,260	21,751	21,968	20,188	20,369
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	35,200	36,440	39,468	40,050	38,551	39,026
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	13,700	18,496	20,139	20,406	19,557	19,863
73	Barranca Parkway	Jamboree Road to Construction Circle	25,500	29,130	32,282	32,325	31,326	31,487
74	Barranca Parkway	Santa Rosa to Culver Drive	23,600	28,283	31,019	31,498	30,197	30,840
75	Barranca Parkway	FedEx to Discovery/Herchel	12,800	15,244	19,005	19,158	17,670	17,901
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	11,500	15,857	18,482	18,899	17,571	17,889
77	Barranca Parkway	Laguna Canyon Road to FedEx	12,700	14,848	18,440	18,600	17,200	17,450
78	Barranca Parkway	Pullman Street to Red Hill Avenue	30,500	36,153	38,000	37,853	37,452	37,245
79	Barranca Parkway	Construction Circle to Fire Station	21,600	25,175	28,462	28,571	27,431	27,622
80	Barranca Parkway	Fire Station to Harvard Avenue	21,600	25,175	28,462	28,571	27,431	27,622
81	Barranca Parkway	Paseo Westpark to Santa Rosa	21,000	25,294	28,055	28,602	27,241	27,925
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	20,500	23,160	25,884	26,663	25,071	25,798
83	Bay Tree	Trabuco Road to Roosevelt	2,100	2,723	2,675	2,681	2,742	2,720
84	Beacon	Ridge Valley to Benchmark	0	3,119	3,586	3,641	3,509	3,587
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0	1,829	1,728	1,729	1,745	1,743
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	20,400	26,221	25,685	26,007	25,773	26,152
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	29,100	30,318	30,850	30,956	30,737	30,797
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	16,400	20,645	20,798	20,905	20,728	20,746
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	16,400	18,987	19,217	19,301	19,103	19,113
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	16,400	17,778	18,311	18,474	18,113	18,182
91	Bosque	Cadence to Great Park Boulevard	7,700	11,850	12,852	12,932	12,836	12,864
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	3,600	7,686	8,905	8,882	8,601	8,621
93	Bosque	Benchmark to Cadence	3,600	7,750	8,135	8,107	7,908	7,923
94	Bosque	Great Park Boulevard to Beacon	0	1,880	1,844	1,843	1,828	1,837
95	Bosque	Beacon to S 5th Street	0	1,524	1,609	1,609	1,591	1,592
96	Bryan Avenue	Jamboree Road to Market Place	20,700	21,684	22,410	22,671	21,962	22,217
97	Bryan Avenue	Market Place to El Camino Real	20,700	21,735	21,846	21,480	21,600	21,675
98	Bryan Avenue	Rubicon to Culver Drive	20,700	21,735	21,397	21,726	21,545	21,708
99	Bryan Avenue	El Camino Real to Rubicon	20,700	21,735	21,246	21,533	21,404	21,532
100	Bryan Avenue	Eastwood to Jeffrey Road	10,600	11,981	14,512	14,724	13,773	14,067

Table 2

101	Bryan Avenue	Westwood to Yale Avenue	11,900	12,001	13,258	13,412	12,845	12,963
102	Bryan Avenue	Culver Drive to Westwood	11,900	12,292	13,038	13,139	12,666	12,769
103	Bryan Avenue	Yale Avenue to Eastwood	10,600	11,130	13,028	13,268	12,224	12,526
104	Cadence	Pusan to Chinon	5,500	4,989	7,071	7,074	6,990	7,014
105	Cadence	Bosque to Pusan	7,100	5,049	6,542	6,540	6,549	6,558
106	Cadence	Ridge Valley (O Street) to Bosque	3,500	4,822	4,909	4,864	4,745	4,749
107	Cadence	Chinon to Merit	3,500	1,575	3,298	3,333	3,194	3,233
108	Cadence	Merit to Astor	0	1,397	1,698	1,688	1,700	1,697
109	California Avenue	University Drive to Academy Way	10,000	15,529	15,758	20,000	15,819	19,919
110	California Avenue	Campus Drive to Harvard Avenue	7,800	9,756	9,868	9,868	9,927	9,803
111	California Avenue	Theory to Bison Avenue	7,600	9,438	9,160	9,414	9,277	9,378
112	Campus Drive	Carlson Avenue to University Drive	17,000	27,465	28,942	29,529	28,558	29,153
113	Campus Drive	University Drive to Bridge Road	22,200	31,499	32,687	32,395	32,269	31,999
114	Campus Drive	Jamboree Road to Carlson Avenue	17,000	28,851	30,504	31,090	30,078	30,629
115	Campus Drive	Stanford Court to Berkeley Avenue	22,200	27,338	27,642	27,465	27,506	27,357
116	Campus Drive	California Avenue to Culver Drive	16,500	26,438	26,572	26,506	26,527	26,405
117	Campus Drive	Berkeley Avenue to Cornell	16,500	21,044	21,468	21,170	21,299	21,031
118	Campus Drive	Martin to Von Karman Avenue	12,100	15,957	17,343	17,979	16,910	17,561
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	15,100	15,713	16,048	16,071	15,918	15,896
120	Campus Drive	Von Karman Avenue to Teller Avenue	10,300	13,785	14,824	15,306	14,558	15,040
121	Campus Drive	MacArthur Boulevard to Martin	12,100	13,788	14,285	14,566	14,164	14,413
122	Campus Drive	Teller Avenue to Jamboree Road	10,300	11,365	12,126	12,374	11,947	12,202
123	Carlson Avenue	Michelson Drive to Campus Drive	6,000	13,044	13,241	13,352	13,196	13,323
124	Chinon	Irvine Boulevard to Cadence	2,700	4,025	4,470	4,475	4,756	4,756
125	Creek Road	Alton Parkway to Barranca Parkway	3,900	4,622	4,907	4,892	4,726	4,796
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	53,900	58,147	61,300	61,019	61,011	60,961
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	53,900	60,031	59,960	59,692	59,757	59,836
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	57,400	60,471	60,969	61,103	60,773	60,896
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	57,400	60,310	59,474	59,478	59,917	59,899
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	53,900	57,001	56,487	56,681	56,621	56,751
131	Culver Drive	San Leandro to Main Street	51,500	53,202	53,021	52,972	53,104	53,116
132	Culver Drive	Harvard Avenue to University Drive	46,300	52,683	53,377	53,363	53,257	53,212
133	Culver Drive	Trabuco Road to Farwell Avenue	57,400	61,294	59,213	59,139	59,765	59,466
134	Culver Drive	Alton Parkway to Barranca Parkway	47,600	51,629	51,504	51,467	51,477	51,527
135	Culver Drive	Main Street to Alton Parkway	46,400	50,144	49,818	50,023	50,071	50,100

Table 2

136	Culver Drive	Warner Avenue to Irvine Center Drive	45,500	48,921	48,908	49,242	48,906	49,101
137	Culver Drive	Walnut Avenue to Scottsdale Dive	44,800	48,508	47,641	47,556	48,151	48,057
138	Culver Drive	Barranca Parkway to Warner Avenue	44,700	47,184	47,548	47,883	47,408	47,820
139	Culver Drive	Shady Canyon Drive to Palo Verde	23,100	27,206	26,474	26,477	26,657	26,587
140	Culver Drive	Deerfield Avenue to Walnut Avenue	41,700	44,819	44,116	44,131	44,374	44,310
141	Culver Drive	Sandburg Way to Michelson Drive	38,000	43,901	44,200	44,162	44,140	44,084
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	39,600	43,101	43,037	43,318	42,966	43,249
143	Culver Drive	Palo Verde to Campus Drive	23,100	24,255	24,255	24,255	24,255	24,255
144	Culver Drive	University Drive to Sandburg Way	34,900	40,605	40,878	40,821	40,840	40,762
145	Culver Drive	Farwell Avenue to Bryan Avenue	43,200	47,503	46,710	46,846	46,881	46,855
146	Culver Drive	Campus Drive to High School	35,900	40,178	39,825	40,099	39,865	40,109
147	Culver Drive	High School to Harvard Avenue	35,900	39,525	39,094	39,155	39,227	39,343
148	Culver Drive	Bryan Avenue to Florence	34,500	37,270	37,153	37,248	37,221	37,291
149	Culver Drive	Portola Parkway to Settlers	13,100	21,591	22,169	22,400	21,951	22,133
150	Culver Drive	Florence to Irvine Boulevard	33,600	36,440	36,281	36,395	36,398	36,478
151	Culver Drive	Irvine Boulevard to Viewpark	24,500	27,912	27,782	27,820	27,898	27,880
152	Culver Drive	Viewpark to Meadowood	24,500	27,661	26,857	26,773	27,143	27,007
153	Culver Drive	Settlers to Furrow	0	11,425	11,930	12,153	11,730	11,905
154	Culver Drive	Meadowood to Portola Parkway	16,700	19,435	19,384	19,447	19,462	19,491
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	1,700	8,932	13,332	13,351	9,370	9,390
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0	4,423	8,636	8,669	4,968	5,001
157	East Yale Loop	Alton Parkway to Witherspoon	10,900	12,625	13,590	13,632	13,294	13,347
158	East Yale Loop	Osborn Street to Barranca Parkway	10,200	11,855	12,938	12,986	12,601	12,680
159	East Yale Loop	Yale Avenue to Springbrook South	6,400	10,084	11,895	11,997	11,442	11,525
160	East Yale Loop	Springbrook North to Alton Parkway	6,400	8,140	8,574	8,626	8,475	8,506
161	East Yale Loop	Woodspring to Yale Avenue	6,400	6,731	7,199	7,261	7,005	7,059
162	East Yale Loop	Barranca Parkway to Eastshore	6,400	6,747	6,524	6,685	6,576	6,558
163	Eastwood	Bryan Avenue to Monticello	2,400	2,973	3,241	3,260	3,185	3,212
164	Eastwood	Columbus to Bryan Avenue	1,900	2,023	2,011	2,057	1,983	2,017
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	18,500	18,775	19,398	19,548	19,240	19,372
166	El Camino Real North	El Camino Real to Bryan Avenue	6,200	6,510	6,553	6,459	6,482	6,466
167	Fairbanks	Alton Parkway to Astor	2,600	18,025	18,614	18,795	18,127	18,297
168	Fairbanks	Irvine Boulevard to Alton Parkway	0	9,256	9,466	9,507	9,449	9,527
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	6,000	7,074	7,081	7,094	7,131	7,094
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	3,800	14,311	17,010	16,817	15,949	15,953

Table 2

171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	6,600	10,892	12,678	12,537	12,089	12,135
172	Gateway Boulevard	Irvine Center Drive to Meridian	3,600	5,160	6,270	6,264	6,154	6,204
173	Great Park Boulevard	Sand Canyon to Ridge Valley	18,000	41,232	45,507	45,662	44,334	44,530
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	5,400	20,241	23,162	23,409	22,427	22,566
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0	7,039	8,824	9,050	8,353	8,512
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0	6,351	7,648	7,680	7,471	7,517
177	Harvard Avenue	University Drive to Michelson Drive	19,000	21,732	22,851	23,172	22,728	23,043
178	Harvard Avenue	Michelson Drive to Coronado	24,800	29,191	31,028	31,339	30,921	31,293
179	Harvard Avenue	San Marino to Alton Parkway	24,500	27,906	29,121	29,801	28,966	29,486
180	Harvard Avenue	Coronado to Main Street	24,000	28,017	28,811	29,155	28,783	29,124
181	Harvard Avenue	San Carlo to San Marino	24,500	27,164	28,438	29,022	28,293	28,700
182	Harvard Avenue	Main Street to San Carlo	24,000	26,657	27,916	28,489	27,778	28,170
183	Harvard Avenue	Alton Parkway to San Leon	20,000	21,000	21,000	20,284	21,000	20,344
184	Harvard Avenue	San Juan to Barranca Parkway	20,000	20,509	21,000	20,554	21,000	20,616
185	Harvard Avenue	San Leon to San Juan	19,200	20,160	20,160	20,160	20,160	20,160
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	10,000	15,559	15,757	15,703	15,465	15,471
187	Harvard Avenue	Deerfield Avenue to Poplar Street	10,000	15,473	15,478	15,436	15,200	15,226
188	Harvard Avenue	Barranca Parkway to Warner Avenue	16,300	17,075	17,135	17,252	17,010	17,230
189	Harvard Avenue	Bridge Road to University Drive	14,800	15,962	17,144	16,993	16,880	16,811
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	11,400	16,630	17,007	16,907	16,982	16,894
191	Harvard Avenue	Poplar Street to Walnut Avenue	8,600	13,344	13,653	13,736	13,278	13,424
192	Harvard Avenue	California Avenue to Berkeley Avenue	11,400	14,000	15,232	15,147	14,831	14,793
193	Harvard Avenue	Culver Drive to California Avenue	11,400	13,746	14,994	14,914	14,731	14,558
194	Harvard Avenue	Berkeley to Bridge Road	11,400	14,010	14,544	14,559	14,456	14,466
195	Harvard Avenue	Warner Avenue to Paseo Westpark	11,000	13,408	13,236	13,284	13,282	13,352
196	Hicks Canyon Drive	Delamesa to Yale Avenue	2,200	2,310	2,210	2,212	2,206	2,209
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0	3,316	3,346	3,323	3,383	3,393
198	Hubble	Irvine Center Drive to Bunsen	2,100	2,224	2,322	2,420	2,333	2,425
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	40,100	42,105	41,249	41,517	42,105	42,105
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	39,100	41,055	40,804	41,000	41,055	40,173
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	43,500	45,675	44,645	45,181	45,675	45,675
202	Irvine Boulevard	Merit to Alton	34,100	35,805	35,805	35,805	35,805	35,805
203	Irvine Boulevard	Journey to Sand Canyon Avenue	34,200	35,910	35,381	36,637	35,506	36,360
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	30,700	32,235	32,010	32,240	32,235	31,486
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	29,600	31,080	31,080	31,080	31,080	31,080

Table 2

206	Irvine Boulevard	Palo Lado to Yale Avenue	27,100	28,118	32,776	33,664	31,566	32,379
207	Irvine Boulevard	Culver Drive to Palo Lado	27,400	28,495	32,471	33,323	31,307	32,081
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	27,700	28,294	31,500	32,007	30,683	31,115
209	Irvine Boulevard	Old Myford Road to Market Place	26,500	27,891	31,742	32,352	30,767	31,303
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	27,900	28,773	32,088	32,429	30,546	30,785
211	Irvine Boulevard	Jamboree Road to Old Myford Road	26,500	27,513	31,090	31,680	30,131	30,658
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	26,400	27,325	30,908	31,554	30,014	30,542
213	Irvine Boulevard	Jeffrey Road to Groveland	28,300	29,715	30,376	32,022	29,333	30,798
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	23,800	30,011	27,916	28,197	28,433	28,721
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to Jeffrey Road	26,000	27,709	29,006	29,427	28,495	28,654
216	Irvine Boulevard	Chinon (B Street) to Merit	26,100	27,405	27,405	27,405	27,405	27,405
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	25,300	26,097	28,240	28,707	27,539	27,914
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	24,300	25,190	27,469	28,114	26,740	27,208
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	24,300	25,057	27,285	27,924	26,562	27,027
220	Irvine Boulevard	Modjeska to Pusan Way	24,800	26,040	26,040	26,040	26,040	26,040
221	Irvine Boulevard	Central Park Avenue to Culver Drive	22,100	22,685	24,480	24,842	24,022	24,271
222	Irvine Boulevard	Parker to Bake Parkway	19,400	22,409	22,659	22,962	22,245	22,781
223	Irvine Boulevard	Alton Parkway to Fairbanks	17,100	17,955	17,955	17,955	17,955	17,955
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	38,500	51,275	52,889	53,953	51,614	52,865
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	29,100	43,698	49,786	50,142	47,747	48,280
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	35,200	46,454	47,340	48,675	46,681	48,133
227	Irvine Center Drive	Irvine Valley College to Orange Tree	29,100	42,382	48,817	49,177	46,642	47,178
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	27,700	39,987	46,104	46,660	44,165	44,870
229	Irvine Center Drive	Culver Drive to Deerwood	29,400	39,661	45,624	45,919	43,788	44,248
230	Irvine Center Drive	Deerwood to Yale Avenue	28,700	39,150	45,180	45,516	43,331	43,804
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	27,100	38,813	45,578	46,236	43,453	44,189
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	29,100	40,074	44,489	44,688	42,819	43,078
233	Irvine Center Drive	Alton Parkway to Spectrum	24,400	34,648	42,406	42,966	39,703	40,201
234	Irvine Center Drive	Spectrum to Pacifica	24,500	33,982	41,920	42,370	39,224	39,643
235	Irvine Center Drive	Hearthstone to Culver Drive	26,000	36,389	39,524	39,645	38,396	38,654
236	Irvine Center Drive	Charter to Barranca Parkway	20,500	32,888	38,843	39,266	36,432	36,795
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	29,400	33,538	35,809	35,938	35,050	35,164
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	25,500	33,656	36,722	37,251	35,060	35,691
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	20,200	31,525	36,773	37,095	35,045	35,398
240	Irvine Center Drive	Harvard Avenue to Hearthstone	26,000	31,072	33,946	34,007	32,966	33,081

Table 2

241	Irvine Center Drive	Research to Hubble	19,200	30,150	29,767	31,287	29,654	31,315
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	15,500	27,369	32,213	32,542	30,054	30,428
243	Irvine Center Drive	Bake Parkway to Muller	19,200	31,012	29,382	30,258	29,430	30,410
244	Irvine Center Drive	Discovery to Charter	16,700	26,747	32,850	33,253	30,216	30,581
245	Irvine Center Drive	Hubble to Bake Parkway	18,900	29,424	27,974	28,520	27,897	28,602
246	Irvine Center Drive	Muller to Tesla	18,400	27,797	26,678	27,303	26,594	27,299
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	18,100	25,007	27,285	27,449	25,885	26,025
248	Irvine Center Drive	Tesla to Scientific Way	16,100	26,203	24,358	25,259	24,586	25,537
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	16,400	24,631	23,241	24,211	23,463	24,377
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	14,700	21,437	23,879	24,509	22,763	23,257
251	Irvine Center Drive	Laguna Canyon Road to Discovery	15,000	20,659	24,024	24,356	22,810	23,090
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	15,200	21,273	23,977	24,191	22,449	22,690
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	28,800	37,743	39,543	40,036	38,705	39,103
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	66,500	69,825	69,825	69,825	69,825	69,825
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	73,400	77,890	81,976	82,589	80,926	81,685
256	Jamboree Road	Walnut Avenue to Michelle Drive	55,000	59,833	60,442	60,520	60,211	60,362
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	73,400	79,710	81,891	82,134	81,354	81,725
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	55,000	56,450	56,408	56,389	56,379	57,750
259	Jamboree Road	Main Street to Kelvin Avenue	61,200	67,444	70,975	71,714	70,210	70,902
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74,300	84,006	88,495	88,960	86,971	87,488
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	57,500	62,646	65,776	66,488	65,064	65,797
262	Jamboree Road	McGaw Avenue to Alton Parkway	56,700	61,804	64,955	65,760	64,320	65,261
263	Jamboree Road	Birch Street to Campus Drive	40,300	44,836	49,612	50,222	48,363	48,881
264	Jamboree Road	Dupont Drive to Michelson Drive	47,600	50,671	55,614	56,292	54,185	54,705
265	Jamboree Road	Alton Parkway to Beckman	53,900	56,746	59,192	60,116	58,506	59,551
266	Jamboree Road	Fairchild Road to Birch Street	37,500	46,728	50,815	51,524	49,498	50,091
267	Jamboree Road	Beckman to Barranca Parkway	51,700	53,974	54,823	55,530	54,535	55,555
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	50,200	52,710	52,710	52,710	52,710	52,710
269	Jamboree Road	Campus Drive to Dupont Drive	40,200	42,224	46,420	47,220	45,590	46,225
270	Jamboree Road	El Camino Real to West Drive	50,200	52,735	51,138	50,741	51,446	51,075
271	Jamboree Road	West Drive to Bryan Avenue	50,200	52,526	51,091	50,973	51,319	51,212
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	45,800	49,213	47,458	47,016	47,722	47,448
273	Jamboree Road	Koll Center to Fairchild Road	32,900	39,496	43,123	43,783	41,698	42,241
274	Jamboree Road	MacArthur Boulevard to Koll Center	34,300	39,695	42,776	43,209	41,222	41,473
275	Jamboree Road	Irvine Boulevard to Portola Pakway	24,500	29,887	29,015	28,920	29,193	29,128

Table 2

276	Jamboree Road	Warner Avenue to Edinger Avenue	83,900	85,506	87,509	87,609	87,026	87,248
277	Jamboree Road	Barranca Parkway to Warner Avenue	68,700	70,769	72,128	72,728	71,471	72,206
278	Jamboree Road	Edinger Avenue to Walnut Avenue	64,000	66,189	66,499	66,731	66,471	66,688
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	50,500	54,962	56,523	56,825	55,850	56,176
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	57,000	62,169	63,296	63,919	62,333	63,037
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	44,600	49,562	50,868	51,048	50,514	50,683
282	Jeffrey Road	Alton Parkway to Barranca Parkway	44,200	46,090	50,717	50,925	49,193	49,443
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	42,900	47,470	48,682	48,837	48,338	48,484
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	44,400	45,688	50,815	51,159	48,513	49,021
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	43,400	45,426	48,023	48,058	47,090	47,228
286	Jeffrey Road	Quail Creek to Alton Parkway	44,400	45,819	48,969	49,376	47,231	47,578
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	42,200	43,854	45,528	45,568	44,501	44,665
288	Jeffrey Road	Trabuco Road to Hideaway	35,700	38,135	37,721	38,141	37,737	38,113
289	Jeffrey Road	Hideaway to Bryan Avenue	35,700	38,018	37,668	38,123	37,660	38,065
290	Jeffrey Road	Roosevelt to Grove	37,200	40,456	41,046	41,043	40,485	40,531
291	Jeffrey Road	Grove to Trabuco Road	37,200	40,151	38,896	38,887	39,079	39,167
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	26,500	28,995	28,845	29,374	28,761	29,277
293	Jeffrey Road	Encore to Portola Parkway	10,400	16,559	15,420	14,548	15,646	14,766
294	Jeffrey Road	Irvine Boulevard to Encore	10,400	15,038	14,436	14,094	14,564	14,204
295	Jeronimo Road	Goodyear to Bake Parkway	7,700	8,433	8,085	8,085	8,085	7,959
296	Jeronimo Road	Alton Parkway to Goodyear	7,200	8,252	7,560	7,560	7,560	7,468
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	44,700	53,167	52,519	53,702	52,557	53,875
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	10,000	16,794	16,624	16,770	16,659	16,794
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	5,100	10,943	15,112	15,177	13,807	13,867
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	5,500	8,635	8,544	8,634	8,507	8,576
301	Laguna Canyon Road	Irvine Center Drive to Discovery	3,900	9,104	13,381	13,313	9,537	9,516
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	5,500	8,635	8,544	8,634	8,507	8,576
303	Laguna Canyon Road	Pasteur to Alton Parkway	6,000	8,294	8,491	8,608	8,352	8,455
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	4,700	7,050	9,487	9,469	7,386	7,346
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	5,100	6,757	7,272	7,308	6,866	6,917
306	Laguna Canyon Road	Barranca Parkway to Waterworks	4,100	6,177	7,040	7,148	6,179	6,120
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	14,500	17,913	18,642	19,408	18,345	19,173
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	14,500	17,780	18,471	19,213	18,195	18,999
309	Lake Forest Drive	Tesla to Bake Parkway	10,700	13,227	13,734	14,514	13,505	14,318
310	Lake Road	Alton Parkway to Barranca Parkway	5,800	6,127	6,179	6,204	6,138	6,144

Table 2

311	Lynx	Irvine Boulevard to Astor	0	1,330	1,254	1,244	1,253	1,246
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	51,800	57,170	61,860	62,587	60,659	61,683
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	50,300	58,639	60,715	61,233	60,198	60,713
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	48,200	57,119	59,832	60,411	59,267	59,791
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	37,900	39,795	39,795	39,795	39,795	39,795
316	MacArthur Boulevard	Fairchild Road to University Drive	37,900	38,766	39,349	39,243	39,738	39,408
317	MacArthur Boulevard	Fitch to Red Hill Avenue	40,900	41,798	42,207	42,124	41,993	41,553
318	MacArthur Boulevard	Michelson Drive to Douglas	36,200	40,849	45,005	46,388	43,680	45,212
319	MacArthur Boulevard	Douglas to Campus Drive	36,200	41,587	44,388	45,645	43,619	45,000
320	MacArthur Boulevard	Skypark to Main Street	29,800	33,703	33,157	33,482	33,051	33,180
321	MacArthur Boulevard	Redhill Avenue to Skypark	26,100	28,805	27,891	28,170	27,961	28,075
322	MacArthur Boulevard	Birch Street to Jamboree Road	18,300	19,634	20,778	21,485	20,454	21,177
323	MacArthur Boulevard	Campus Drive to Birch Street	19,400	22,000	23,178	24,205	22,933	23,909
324	Main Street	Gillette Avenue to Von Karman Avenue	32,500	38,628	45,614	46,084	44,129	44,818
325	Main Street	MacArthur Boulevard to Mercantile	32,500	36,531	39,827	40,229	39,170	39,493
326	Main Street	Executive Park to MacArthur Boulevard	24,000	26,869	28,554	28,777	28,179	28,337
327	Main Street	Von Karman Avenue to Cartwright	21,400	24,763	28,744	28,808	27,884	28,170
328	Main Street	McDurmott to Red Hill Avenue	25,300	25,767	26,403	26,518	26,239	26,342
329	Main Street	Red Hill Avenue to Executive Circle	24,000	25,362	25,874	25,974	25,766	25,776
330	Main Street	Jamboree Road to Union	22,600	24,079	24,963	25,130	24,728	24,761
331	Main Street	Culver Drive to West Yale Loop	14,100	14,805	14,634	14,660	14,523	14,599
332	Main Street	Siglo to Jamboree Road	21,400	22,387	24,271	24,322	23,884	24,041
333	Main Street	Veneto to Harvard Avenue	22,600	23,730	23,292	23,421	23,172	23,207
334	Main Street	Paseo Westpark to Culver Drive	11,600	12,180	12,007	12,129	12,180	12,068
335	Main Street	Harvard Avenue to San Mateo	11,600	11,923	11,948	11,988	12,142	11,928
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	14,400	38,752	40,895	40,977	40,411	40,541
337	Marine Way	Alton Parkway to Bake Parkway	0	29,934	33,007	33,132	31,689	31,983
338	Marine Way	Lynx to Barranca Parkway	0	32,584	32,066	32,174	32,229	32,277
339	Marine Way	County Access to Treble	3,200	12,788	26,373	26,495	25,917	26,072
340	Marine Way	Ridge Valley (O Street) to Skyhawk	5,900	21,357	25,442	25,478	24,715	24,784
341	Marine Way	Skyhawk to County Access	3,200	11,690	20,450	20,553	19,302	19,473
342	Marine Way	Barranca Parkway to Alton Parkway	700	15,956	17,902	17,922	17,824	17,909
343	Marine Way	Treble to Lynx	0	19,116	16,855	16,993	16,340	16,505
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	8,600	11,998	14,522	14,638	13,868	13,966
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	8,400	12,035	14,147	14,434	13,510	13,754

Table 2

346	McGaw Avenue	Daimler to Red Hill Avenue	6,500	9,107	9,147	9,107	9,063	9,179
347	McGaw Avenue	Jamboree Road to Murphy Avenue	3,000	4,320	4,734	4,648	4,424	4,528
348	Meadowood	Culver Drive to Canyonwood	10,400	10,920	10,920	10,668	10,920	10,920
349	Meridian	Spectrum to Alton Parkway	2,200	2,338	2,707	2,808	2,563	2,685
350	Meridian	Alton Parkway to Gateway Boulevard	1,700	1,950	2,238	2,259	2,184	2,205
351	Merit	Irvine Boulevard to Cadence	5,100	3,204	3,718	3,772	3,641	3,731
352	Michelson Drive	Riparian to Harvard Avenue	17,700	22,861	25,332	25,376	25,218	25,198
353	Michelson Drive	Almond Tree Lane to Yale Avenue	8,200	9,055	10,108	10,160	9,910	9,921
354	Michelson Drive	Von Karman Avenue to Obsidian	17,600	22,381	24,512	24,498	23,682	23,736
355	Michelson Drive	Parkside to Culver Drive	15,500	18,030	22,469	22,511	22,374	22,429
356	Michelson Drive	Gillman to Seton/Sandburg Way	8,200	8,623	9,393	9,500	9,165	9,208
357	Michelson Drive	Carlson to Prince	17,700	25,099	27,299	27,204	27,061	27,093
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	17,600	18,637	21,065	21,112	20,323	20,337
359	Michelson Drive	Harvard Avenue to Parkside	15,500	18,101	18,016	18,076	17,916	18,003
360	Michelson Drive	Bixby to Von Karman Avenue	11,600	16,064	18,167	18,256	17,607	17,647
361	Michelson Drive	Jamboree Road to Carlson	17,700	24,519	25,554	25,363	25,486	25,364
362	Michelson Drive	Teller to Jamboree Road	20,700	24,548	25,444	25,464	25,530	25,600
363	Michelson Drive	Jordan East to University Drive	6,200	6,510	6,980	6,991	6,719	6,782
364	Michelson Drive	Culver Drive to Angell	8,200	8,600	8,905	8,947	8,757	8,789
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	10,800	13,585	13,698	13,789	13,725	13,817
366	Modjeska (A Street)	South of Irvine Boulevard	2,000	1,669	1,855	1,833	1,874	1,834
367	Muirlands Boulevard	Bake Parkway to City Limits	12,200	14,592	14,718	15,023	14,376	14,807
368	Muirlands Boulevard	Alton Parkway to Sterling	11,400	11,970	11,970	11,701	11,970	11,970
369	Muirlands Boulevard	Wrigley to Bake Parkway	11,400	11,711	11,970	11,970	11,970	11,970
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	14,500	17,431	17,293	17,365	17,333	17,310
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	11,800	12,390	12,138	12,158	12,101	12,122
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	9,000	12,094	11,314	11,178	11,630	11,501
373	Northwood	Yale Avenue to Savannah	4,500	4,646	4,780	4,798	4,715	4,741
374	Northwood	Goldrush to Yale Avenue	3,000	3,628	3,802	3,833	3,773	3,801
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	6,000	7,939	13,369	13,331	12,082	12,109
376	Pacifica	Gateway to Barranca Parkway	8,100	10,905	12,617	12,784	12,406	12,565
377	Pacifica	Alton Parkway to Gateway	5,700	7,790	9,580	9,769	9,464	9,495
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	5,500	7,857	6,909	7,054	6,930	7,083
379	Pacifica	Meridian to Alton Parkway	2,400	3,742	4,572	4,576	4,476	4,479
380	Park Place	Christamon South to Yale Avenue	3,600	3,784	3,747	3,737	3,750	3,750

Table 2

381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	17,900	22,658	24,951	25,814	24,011	24,775
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	17,900	22,635	24,889	25,724	23,959	24,694
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	15,300	22,644	23,410	23,934	23,161	23,621
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	15,300	20,880	21,503	21,926	21,291	21,666
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	6,000	16,931	17,090	17,392	17,068	17,347
386	Portola Parkway	Gatepark to Culver Drive	22,700	26,146	29,312	30,092	28,306	29,181
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	22,700	26,024	28,911	29,669	27,985	28,743
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	22,700	25,264	28,023	28,810	27,082	27,901
389	Portola Parkway	Jamboree Road to Bellevue	22,700	24,960	27,703	28,532	26,830	27,621
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	22,700	24,770	27,438	28,239	26,584	27,354
391	Portola Parkway	Yale Avenue to Jeffrey Road	17,800	23,831	26,088	27,075	25,071	25,999
392	Portola Parkway	Culver Drive to Yale Avenue	17,800	21,489	22,869	23,470	22,276	22,874
393	Portola Parkway	Silverado to Portola Springs	7,600	11,969	12,134	12,381	12,067	12,310
394	Pusan	Irvine Boulevard to Cadence	1,500	2,434	2,468	2,449	2,470	2,449
395	Quail Hill Parkway	Shady Canyon Drive to Passage	15,200	15,960	15,648	15,772	15,448	15,541
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	8,500	10,254	9,734	9,762	9,917	9,900
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	1,800	1,991	2,026	2,051	1,981	1,994
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	38,200	41,924	44,982	45,998	44,189	45,131
399	Red Hill Avenue	I-405 Over Crossing to Main Street	19,700	20,812	22,560	22,980	22,062	22,478
400	Red Hill Avenue	Alton Parkway to Deere Avenue	28,000	30,843	31,869	32,372	31,427	32,238
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	26,800	29,669	31,060	31,871	30,718	31,517
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	26,700	29,582	29,932	30,440	29,672	30,497
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	16,700	19,882	21,918	22,585	21,395	21,999
404	Red Hill Avenue	Main Street to Skypark East	14,600	17,274	18,979	19,603	18,423	18,933
405	Research Drive	Hubble to Bake Parkway	9,700	24,761	25,625	25,920	24,938	25,175
406	Research Drive	Scientific to Lake Forest Drive	10,100	15,994	15,298	16,713	15,327	16,919
407	Research Drive	Bake Parkway to Muller	11,600	12,604	12,951	13,395	12,774	13,241
408	Research Drive	Irvine Center Drive to Bunsen	8,600	9,824	10,459	10,553	10,214	10,299
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	9,900	15,535	15,025	14,991	14,874	14,983
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	10,800	12,575	12,161	12,229	12,231	12,342
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	10,600	11,130	11,130	11,130	11,130	11,130
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	900	935	930	931	936	935
413	Ridgeline Drive	Concordia East to University Drive	12,600	15,575	16,232	16,267	16,053	16,070
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	12,600	14,257	15,110	15,191	14,883	14,923
415	Rockfield Avenue	Whatney to McLaren	12,000	15,880	16,500	16,792	16,154	16,541

Table 2

416	Rockfield Avenue	Bake Parkway to Whatney	5,000	6,694	7,559	7,636	7,259	7,372
417	Rockfield Avenue	Thomas to Bake Parkway	5,000	5,145	5,734	5,795	5,672	5,692
418	Roosevelt	Jeffrey Road to Vision	12,500	15,443	17,060	17,577	16,664	17,206
419	Roosevelt	Yale Avenue to Van Buren	8,500	8,812	9,191	9,343	8,969	9,058
420	Roosevelt	Vision to Bay Tree	10,500	14,654	16,183	16,893	15,775	16,387
421	Roosevelt	Nimitz to Jeffrey Road	12,500	14,187	14,507	14,604	14,499	14,608
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	8,800	13,745	13,715	14,013	13,703	14,053
423	Royal Oak	Alton Parkway to Eaglecreek	4,600	4,830	4,830	4,830	4,830	4,830
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	36,600	48,414	51,595	52,249	50,454	51,113
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	35,800	45,483	49,313	50,129	49,167	50,013
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	36,600	44,364	46,506	46,785	45,532	45,922
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	37,500	51,493	53,826	54,479	53,029	53,622
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	38,800	59,568	60,722	62,427	60,688	62,433
429	Sand Canyon Avenue	Trabuco Road to Towngate	31,500	42,099	39,436	41,347	40,085	42,024
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	26,100	36,308	39,030	39,517	38,043	38,582
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	38,800	49,577	50,537	51,956	50,509	51,961
432	Sand Canyon Avenue	Hospital to Barranca Parkway	26,800	34,191	37,782	38,333	35,931	36,289
433	Sand Canyon Avenue	Nightmist to Roosevelt	44,800	46,045	47,040	47,225	47,040	46,581
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	27,400	34,745	36,253	36,420	35,399	35,889
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	43,800	46,445	46,459	47,804	46,651	49,225
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	26,908	35,972	34,028	36,276	34,490	36,746
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	26,100	31,409	33,123	33,662	33,082	33,598
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	13,600	18,121	17,682	23,085	17,874	23,306
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	37,700	39,585	39,585	39,585	39,585	39,585
440	Sand Canyon Avenue	Alton Parkway to Hospital	26,800	31,835	34,402	34,877	32,774	33,129
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	21,700	22,794	23,990	24,017	23,802	23,970
442	Scientific Way	Irvine Center Drive to Wald	1,500	1,616	1,653	1,634	1,635	1,626
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	8,100	8,410	9,409	9,541	9,123	9,242
7,727	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	7,000	7,350	8,049	8,202	7,752	7,888
445	Skyhawk	Great Park Boulevard to Marine Way	2,200	12,035	10,431	10,359	10,666	10,600
446	Southwood	Yale Avenue to Colt	3,000	3,003	3,054	3,070	3,031	3,052
447	Southwood	Challenger to Yale Avenue	2,600	2,867	2,909	2,909	2,798	2,844
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	10,500	11,702	11,853	11,720	11,786	11,887
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	11,900	13,210	13,277	13,355	13,116	13,271
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	5,600	5,827	6,807	6,895	6,602	6,698

Table 2

451	Technology Drive	Barranca Parkway to Alton Parkway	14,100	27,461	33,564	33,560	32,036	32,103
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	5,800	14,421	25,455	25,533	23,487	23,614
453	Technology Drive	I-5/SR-133 to Barranca Parkway	5,300	11,458	24,498	24,552	22,568	22,678
454	Technology Drive	Ada to Alton Parkway	1,700	2,747	6,550	6,603	5,528	5,697
455	Toledo Way	Bake Parkway to City Limits	7,600	8,101	7,798	7,876	7,905	8,035
456	Toledo Way	Goodyear to Bake Parkway	6,100	6,577	6,405	6,405	6,324	6,383
457	Toledo Way	Alton Parkway to Parker	5,300	6,118	5,994	6,030	5,838	5,879
458	Trabuco Road	Keystone to Sand Canyon Avenue	13,100	14,020	14,736	14,918	14,475	14,594
459	Trabuco Road	Jeffrey Road to Keystone	13,100	13,755	14,256	14,426	13,713	13,846
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	12,000	12,898	13,483	13,569	13,214	13,275
461	Trabuco Road	Monroe to Yale Avenue	12,000	12,600	13,466	13,781	12,866	13,181
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	12,000	12,600	13,135	13,404	12,616	12,860
463	Trabuco Road	Yale Avenue to Remington	10,500	11,025	12,278	12,594	11,616	11,949
464	Trabuco Road	Remington to Jeffrey Road	10,500	11,025	11,518	11,786	11,077	11,295
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0	21,210	20,930	20,959	21,017	20,977
466	Turtle Rock Drive	Ridgeline to Willowleaf	7,000	8,148	8,823	8,839	8,727	8,738
467	Turtle Rock Drive	Silkwood to Sunnyhill	7,200	7,856	8,720	8,790	8,572	8,638
468	Turtle Rock Drive	Canyon Park to Ridgeline	6,700	6,963	7,353	7,358	7,206	7,159
469	Turtle Rock Drive	Sunnyhill to Southernwood	3,500	3,609	3,658	3,664	3,588	3,587
470	Turtle Rock Drive	Campus Drive to Hillgate	6,700	7,089	7,260	7,303	7,125	7,106
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	3,900	4,044	4,076	4,071	4,066	4,064
472	University Drive	Golden Glow to Yale Avenue	35,400	39,438	43,009	43,486	42,194	42,678
473	University Drive	Ridgeline to Michelson Drive	46,900	49,362	52,466	53,139	51,836	52,367
474	University Drive	Culver Drive to Golden Glow	34,500	38,353	41,770	42,225	41,000	41,441
475	University Drive	Yale Avenue to Ridgeline	34,200	35,343	37,097	37,727	36,567	36,983
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	52,900	54,745	59,053	59,773	58,027	58,667
477	University Drive	Mesa to Campus Drive	34,000	42,065	45,247	46,258	44,446	45,486
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	34,000	42,129	44,232	46,885	43,634	46,290
479	University Drive	California Avenue to Mesa	34,000	40,950	44,280	45,113	43,321	44,330
480	University Drive	Campus Drive to Harvard Avenue	27,800	33,789	37,107	38,009	36,432	37,310
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	15,000	18,527	19,626	20,520	19,332	20,200
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	26,000	31,273	32,890	34,513	32,489	34,047
483	University Drive	San Joaquin to Culver Drive	23,500	27,239	30,341	30,679	29,608	30,020
484	University Drive	Harvard Avenue to San Joaquin	23,500	27,126	30,225	30,550	29,483	29,892
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	4,300	13,681	13,886	13,837	13,484	13,433

Table 2

486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	4,500	7,844	12,395	12,291	11,004	11,018
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	4,200	8,042	11,075	11,266	10,125	10,317
488	Valley Oak Drive	Alton Parkway to Hawkcreek	5,100	6,753	6,689	6,590	6,517	6,501
489	Von Karman Avenue	Marriott to Morse Avenue	21,900	32,180	35,254	35,487	34,440	34,606
490	Von Karman Avenue	Michelson Drive to Quartz	21,300	30,568	34,068	34,303	33,121	33,326
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	23,800	28,817	33,488	33,736	32,658	33,069
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	26,200	35,462	41,190	41,710	40,666	41,216
493	Von Karman Avenue	Main Street to Anchor	23,100	27,652	32,693	33,066	31,991	32,464
494	Von Karman Avenue	Anchor to McGaw Avenue	23,100	27,101	31,540	31,904	30,891	31,313
495	Von Karman Avenue	Morse to Main Street	23,100	27,235	29,827	30,079	29,382	29,530
496	Von Karman Avenue	Martin to Dupont Drive	17,000	23,409	25,714	25,978	25,189	25,404
497	Von Karman Avenue	Campus Drive to Martin	17,000	23,065	25,190	25,324	24,686	24,957
498	Von Karman Avenue	Dupont Drive to Michelson Drive	17,000	23,141	25,012	25,306	24,689	24,911
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	21,600	31,658	34,800	34,873	34,097	34,208
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	20,400	21,679	22,977	23,422	22,555	22,735
501	Walnut Avenue	The Mall Street to Culver Drive	18,700	19,607	21,348	21,556	20,739	21,014
502	Walnut Avenue	Harvard Avenue to The Mall Street	18,700	19,566	21,283	21,466	20,671	20,921
503	Walnut Avenue	Franciscan Street to Ravenwood Street	17,800	18,104	19,627	20,217	19,169	19,748
504	Walnut Avenue	Ravenwood Street to Yale Avenue	17,800	18,267	19,787	19,725	19,154	19,073
505	Walnut Avenue	Culver Drive to Franciscan Street	17,800	18,122	19,171	19,522	18,884	19,198
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	20,300	23,611	26,108	26,432	25,274	25,674
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	20,300	23,091	25,075	25,325	24,408	24,721
508	Walnut Avenue	Yale Avenue to Kazan Street	11,900	13,893	14,945	15,195	14,408	14,757
509	Walnut Avenue	Wisteria to Jeffrey Road	11,900	14,036	14,674	14,856	14,301	14,563
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	25,400	28,474	29,278	28,958	29,075	28,741
511	Warner Avenue	Construction North to Harvard Avenue	16,800	19,399	20,424	20,168	20,183	19,878
512	Warner Avenue	Harvard Avenue to Paseo Westpark	11,400	13,312	14,244	14,205	13,998	13,949
513	Warner Avenue	Santa Ynez to Culver Drive	9,100	10,265	11,546	11,717	11,117	11,142
514	Warner Avenue	Culver Drive to West Yale Loop	8,700	9,123	10,716	10,973	10,312	10,428
515	West Yale Loop	Alton Parkway to Blue Lake North	8,000	9,388	9,475	9,360	9,402	9,462
516	West Yale Loop	Eagle Run to Main Street	8,000	9,045	9,135	9,015	9,077	9,126
517	West Yale Loop	Thunder Run to Yale Avenue	7,000	8,605	9,371	9,484	9,148	9,279
518	West Yale Loop	Main Street to Timber Run	7,000	7,350	7,206	7,261	7,350	7,177
519	West Yale Loop	Yale Avenue to Shorebird	5,700	6,121	7,821	8,013	7,270	7,554
520	West Yale Loop	Warner Avenue to Stonecreek South	5,700	6,494	6,943	7,018	6,777	6,766

Table 2

521	West Yale Loop	Barranca Parkway to Alton Parkway	5,500	6,497	6,571	6,549	6,586	6,550
522	West Yale Loop	Stonecreek North to Warner Avenue	5,700	5,909	6,771	6,875	6,484	6,628
523	West Yale Loop	Birdsong to Barranca Parkway	5,700	6,221	6,532	6,637	6,405	6,435
524	Westwood	Yorktown to Bryan Avenue	5,600	6,136	6,042	6,031	6,072	6,049
525	Westwood	Bryan Avenue to Leaf	3,600	3,830	3,912	3,919	3,762	3,817
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	10,200	10,521	10,497	10,502	10,511	10,532
527	Yale Avenue	Hicks Canyon Drive to Meadowood	7,500	7,885	7,806	7,828	7,814	7,828
528	Yale Avenue	Walnut Avenue to Roosevelt	13,600	14,427	14,894	15,197	14,547	14,775
529	Yale Avenue	Roosevelt to Trabuco Road	13,600	14,270	14,285	14,306	14,133	14,287
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	12,500	14,084	13,571	13,416	13,725	13,713
531	Yale Avenue	West Yale Loop to Irvine Center Drive	8,900	10,606	12,463	12,658	11,926	12,162
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	10,200	10,512	10,439	10,524	10,310	10,472
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	10,200	10,512	10,439	10,524	10,310	10,472
534	Yale Avenue	Trabuco Road to Southwood	9,000	10,224	10,232	10,332	10,111	10,318
535	Yale Avenue	Southwood to Bryan Avenue	9,000	10,061	9,703	9,807	9,802	9,907
536	Yale Avenue	Northwood to Irvine Boulevard	8,500	9,496	9,106	9,199	9,152	9,164
537	Yale Avenue	Bryan Avenue to Monticello	8,500	9,368	8,826	8,895	8,918	8,902
538	Yale Avenue	Irvine Boulevard to Park Place	7,200	7,567	7,442	7,432	7,463	7,457
539	Yale Avenue	University Drive to Royce	1,100	3,588	4,105	4,006	3,940	3,979
540	Yale Court	Arborwood to Portola Parkway	6,000	6,351	6,458	6,472	6,427	6,441

Source: Iteris 2024

Table 3: Distribution of Traffic Flow by Vehicle Type (Vehicle Mix)

Roadway Classification	Total % Traffic Flow[1]			Total
	Autos	Medium Trucks	Heavy Trucks	
All Roadways	97.42%	1.84%	0.74%	100.00%

[1] Source: Orange County vehicle mix.

Table 4: Time of Day Vehicle Splits

Vehicle Type	Time of Day Splits[1]			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

[1] Orange County vehicle mix.

"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5: Existing Conditions Noise Contours

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ada	Barranca Parway to Marine Way	0.0	RW	RW	RW
2	Ada	Alton Parkway to Barranca PArkway	60.3	RW	RW	65
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	102	220	475
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	110	236	509
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.3	77	165	355
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	RW	163	351
7	Alton Parkway	Jeffrey Road to Royal Oak	70.1	63	137	295
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	RW	RW	110
9	Alton Parkway	Culver Drive to West Yale Loop	70.4	67	143	309
10	Alton Parkway	West Yale Loop to Lake Road	70.3	66	141	304
11	Alton Parkway	Technology Drive West to Ada	70.2	82	177	382
12	Alton Parkway	Creek Road to East Yale Loop	70.1	64	137	296
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	RW	101	217
14	Alton Parkway	Lake Road to Creek Road	70.1	63	136	293
15	Alton Parkway	Telemetry to Banting	69.0	RW	116	249
16	Alton Parkway	Irvine Boulevard to Commercentre	70.3	88	190	409
17	Alton Parkway	Jenner to Telemetry	69.0	RW	115	248
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	RW	147	316
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	83	180	387
20	Alton Parkway	Laguna Canyon Road to Jenner	69.0	RW	115	248
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	RW	159	342
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.4	RW	123	265
23	Alton Parkway	Banting to Pacifica	68.4	RW	105	226
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.1	85	184	396
25	Alton Parkway	Ada to Technology Drive East	69.2	RW	160	345

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Table 5

26	Alton Parkway	Von Karman Avenue to Jamboree Road	68.7	RW	110	237
27	Alton Parkway	Jeronimo Road to Hughes	69.8	RW	175	377
28	Alton Parkway	Hughes to Morgan	69.5	RW	169	364
29	Alton Parkway	Morgan to Toledo Way	68.8	RW	151	325
30	Alton Parkway	San Marino to Culver Drive	68.8	RW	151	325
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.0	RW	134	288
32	Alton Parkway	Hospital to Laguna Canyon Road	70.7	67	144	310
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.1	71	153	330
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.1	RW	135	291
35	Alton Parkway	Foster to Irvine Boulevard	68.0	RW	133	286
36	Alton Parkway	Fairbanks to Foster	67.5	RW	124	267
37	Alton Parkway	Toledo Way to Bertea	68.2	RW	137	296
38	Alton Parkway	Pacifica to Meridian	69.7	RW	123	265
39	Alton Parkway	Bertea to Fairbanks	68.1	RW	135	291
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	RW	108	232
41	Alton Parkway	Paseo Westpark to San Marino	67.9	RW	131	283
42	Alton Parkway	Harvard Avenue to Paseo Westpark	66.9	RW	113	243
43	Astor	Lynx to Fairbanks	57.5	RW	RW	RW
44	Astor	Cadence to Lynx	0.0	RW	RW	RW
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	75.4	228	490	1,056
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.7	128	275	593
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	74.7	207	445	960
48	Bake Parkway	Jeronimo Road to Toledo Way	71.9	112	242	521
49	Bake Parkway	Toledo Way to Cromwell	71.5	107	230	495
50	Bake Parkway	Cromwell to Irvine Boulevard	71.4	104	224	483
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	68.5	RW	143	308
52	Bake Parkway	Irvine Center Drive to Research Drive	64.1	RW	RW	157
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	61.9	RW	RW	113
54	Banting	Alton Parkway to Barranca Parkway	57.6	RW	RW	RW
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	68	146	315
56	Barranca Parkway	Banting to Pacifica	70.7	70	150	324

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Table 5

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	RW	131	282
58	Barranca Parkway	Technology Drive West to Ada	70.4	67	144	311
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	RW	121	260
60	Barranca Parkway	Culver Drive to West Yale Loop	71.9	84	182	391
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	81	174	374
62	Barranca Parkway	West Yale Loop to Lake Road	71.6	80	173	372
63	Barranca Parkway	Ada to Alton Parkway	70.2	65	140	301
64	Barranca Parkway	Lake Road to Creek Road	71.2	76	163	350
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	167	360	775
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	RW	129	279
67	Barranca Parkway	Lyon to East Yale Loop	71.0	73	157	339
68	Barranca Parkway	Creek Road to Lyon	70.9	72	155	335
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	71.5	100	216	464
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	RW	107	231
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.0	108	233	501
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	RW	117	253
73	Barranca Parkway	Jamboree Road to Construction Circle	70.1	86	185	399
74	Barranca Parkway	Santa Rosa to Culver Drive	69.8	RW	176	378
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	RW	112	241
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	RW	104	225
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	RW	111	240
78	Barranca Parkway	Pullman Street to Red Hill Avenue	72.7	152	327	703
79	Barranca Parkway	Construction Circle to Fire Station	69.4	RW	166	357
80	Barranca Parkway	Fire Station to Harvard Avenue	69.4	RW	166	357
81	Barranca Parkway	Paseo Westpark to Santa Rosa	69.3	RW	163	350
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.2	RW	160	345
83	Bay Tree	Trabuco Road to Roosevelt	56.1	RW	RW	RW
84	Beacon	Ridge Valley to Benchmark	0.0	RW	RW	RW
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	RW	RW	RW
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	68.6	RW	109	235
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.0	75	162	350

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Table 5

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	67.5	RW	111	239
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	67.5	RW	111	239
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.5	RW	111	239
91	Bosque	Cadence to Great Park Boulevard	63.0	RW	RW	59
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	59.7	RW	RW	RW
93	Bosque	Benchmark to Cadence	59.7	RW	RW	RW
94	Bosque	Great Park Boulevard to Beacon	0.0	RW	RW	RW
95	Bosque	Beacon to S 5th Street	0.0	RW	RW	RW
96	Bryan Avenue	Jamboree Road to Market Place	68.7	RW	110	237
97	Bryan Avenue	Market Place to El Camino Real	68.7	RW	110	237
98	Bryan Avenue	Rubicon to Culver Drive	68.7	RW	110	237
99	Bryan Avenue	El Camino Real to Rubicon	68.7	RW	110	237
100	Bryan Avenue	Eastwood to Jeffrey Road	65.8	RW	70	152
101	Bryan Avenue	Westwood to Yale Avenue	66.3	RW	76	164
102	Bryan Avenue	Culver Drive to Westwood	66.3	RW	76	164
103	Bryan Avenue	Yale Avenue to Eastwood	65.8	RW	70	152
104	Cadence	Pusan to Chinon	64.5	RW	RW	75
105	Cadence	Bosque to Pusan	65.7	RW	41	89
106	Cadence	Ridge Valley (O Street) to Bosque	62.6	RW	RW	56
107	Cadence	Chinon to Merit	62.6	RW	RW	56
108	Cadence	Merit to Astor	0.0	RW	RW	RW
109	California Avenue	University Drive to Academy Way	64.3	RW	RW	120
110	California Avenue	Campus Drive to Harvard Avenue	63.2	RW	RW	102
111	California Avenue	Theory to Bison Avenue	63.1	RW	RW	100
112	Campus Drive	Carlson Avenue to University Drive	70.9	58	124	268
113	Campus Drive	University Drive to Bridge Road	70.1	64	138	296
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	RW	115	248
115	Campus Drive	Stanford Court to Berkeley Avenue	70.1	64	138	296
116	Campus Drive	California Avenue to Culver Drive	68.9	RW	113	243
117	Campus Drive	Berkeley Avenue to Cornell	68.9	RW	113	243
118	Campus Drive	Martin to Von Karman Avenue	67.5	RW	92	198

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Table 5

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.5	RW	106	229
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	RW	82	178
121	Campus Drive	MacArthur Boulevard to Martin	67.5	RW	92	198
122	Campus Drive	Teller Avenue to Jamboree Road	66.8	RW	82	178
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	RW	RW	124
124	Chinon	Irvine Boulevard to Cadence	56.6	RW	RW	RW
125	Creek Road	Alton Parkway to Barranca Parkway	55.3	RW	RW	RW
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.4	141	305	656
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.4	141	305	656
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.7	147	318	685
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.7	147	318	685
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.4	141	305	656
131	Culver Drive	San Leandro to Main Street	73.2	137	296	637
132	Culver Drive	Harvard Avenue to University Drive	72.7	128	275	593
133	Culver Drive	Trabuco Road to Farwell Avenue	74.1	150	322	694
134	Culver Drive	Alton Parkway to Barranca Parkway	72.9	130	280	604
135	Culver Drive	Main Street to Alton Parkway	72.7	128	276	594
136	Culver Drive	Warner Avenue to Irvine Center Drive	72.7	126	272	586
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.6	125	269	580
138	Culver Drive	Barranca Parkway to Warner Avenue	72.6	125	269	579
139	Culver Drive	Shady Canyon Drive to Palo Verde	71.4	77	166	358
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.3	119	257	553
141	Culver Drive	Sandburg Way to Michelson Drive	71.9	112	241	520
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.1	115	248	534
143	Culver Drive	Palo Verde to Campus Drive	71.4	77	166	358
144	Culver Drive	University Drive to Sandburg Way	71.5	106	228	491
145	Culver Drive	Farwell Avenue to Bryan Avenue	72.8	124	267	574
146	Culver Drive	Campus Drive to High School	71.6	108	232	501
147	Culver Drive	High School to Harvard Avenue	71.6	108	232	501
148	Culver Drive	Bryan Avenue to Florence	71.5	105	226	488
149	Culver Drive	Portola Parkway to Settlers	68.9	RW	114	245

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Table 5

150	Culver Drive	Florence to Irvine Boulevard	71.3	103	222	479
151	Culver Drive	Irvine Boulevard to Viewpark	70.0	84	180	388
152	Culver Drive	Viewpark to Meadowood	70.0	84	180	388
153	Culver Drive	Settlers to Furrow	0.0	RW	RW	RW
154	Culver Drive	Meadowood to Portola Parkway	68.3	RW	140	301
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	RW	RW	RW
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	RW	RW	RW
157	East Yale Loop	Alton Parkway to Witherspoon	64.6	RW	RW	127
158	East Yale Loop	Osborn Street to Barranca Parkway	64.3	RW	RW	122
159	East Yale Loop	Yale Avenue to Springbrook South	62.3	RW	RW	89
160	East Yale Loop	Springbrook North to Alton Parkway	62.3	RW	RW	89
161	East Yale Loop	Woodspring to Yale Avenue	62.3	RW	RW	89
162	East Yale Loop	Barranca Parkway to Eastshore	62.3	RW	RW	89
163	Eastwood	Bryan Avenue to Monticello	59.5	RW	RW	RW
164	Eastwood	Columbus to Bryan Avenue	58.5	RW	RW	RW
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	66.9	RW	84	181
166	El Camino Real North	El Camino Real to Bryan Avenue	62.2	RW	RW	87
167	Fairbanks	Alton Parkway to Astor	61.3	RW	RW	46
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	RW	RW	RW
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	63.3	RW	RW	104
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	RW	RW	RW
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	59.4	RW	RW	RW
172	Gateway Boulevard	Irvine Center Drive to Meridian	56.8	RW	RW	RW
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	65	140	302
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	RW	RW	116
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	RW	RW	RW
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	RW	RW	RW
177	Harvard Avenue	University Drive to Michelson Drive	71.2	45	97	209
178	Harvard Avenue	Michelson Drive to Coronado	69.5	RW	124	268
179	Harvard Avenue	San Marino to Alton Parkway	69.4	RW	123	265
180	Harvard Avenue	Coronado to Main Street	69.3	RW	121	262

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Table 5

181	Harvard Avenue	San Carlo to San Marino	69.4	RW	123	265
182	Harvard Avenue	Main Street to San Carlo	69.3	RW	121	262
183	Harvard Avenue	Alton Parkway to San Leon	68.5	RW	108	232
184	Harvard Avenue	San Juan to Barranca Parkway	68.5	RW	108	232
185	Harvard Avenue	San Leon to San Juan	68.4	RW	105	226
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	RW	68	146
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	RW	68	146
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.6	RW	94	202
189	Harvard Avenue	Bridge Road to University Drive	67.2	RW	88	190
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	RW	74	159
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	RW	66	143
192	Harvard Avenue	California Avenue to Berkeley Avenue	66.1	RW	74	159
193	Harvard Avenue	Culver Drive to California Avenue	66.1	RW	74	159
194	Harvard Avenue	Berkeley to Bridge Road	66.1	RW	74	159
195	Harvard Avenue	Warner Avenue to Paseo Westpark	65.9	RW	72	156
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	RW	RW	RW
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	RW	RW	RW
198	Hubble	Irvine Center Drive to Bunsen	55.5	RW	RW	RW
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.1	116	250	539
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.0	114	246	530
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	72.9	124	268	577
202	Irvine Boulevard	Merit to Alton	71.4	104	225	484
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.4	104	225	485
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.9	97	209	451
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	70.8	95	204	440
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.4	89	193	415
207	Irvine Boulevard	Culver Drive to Palo Lado	70.5	90	194	418
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	91	195	421
209	Irvine Boulevard	Old Myford Road to Market Place	70.3	88	190	409
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.5	91	196	423
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.3	88	190	409

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Table 5

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.3	88	189	408
213	Irvine Boulevard	Jeffrey Road to Groveland	70.6	92	198	427
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	69.8	RW	177	381
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to JeffreyRoad	70.2	87	187	404
216	Irvine Boulevard	Chinon (B Street) to Merit	70.2	87	188	405
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.1	85	184	396
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	69.9	RW	179	386
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	69.9	RW	179	386
220	Irvine Boulevard	Modjeska to Pusan Way	70.0	84	182	391
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.5	RW	168	362
222	Irvine Boulevard	Parker to Bake Parkway	69.0	RW	154	332
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.4	RW	142	305
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	98	210	453
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	RW	172	370
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	70.9	92	198	426
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	RW	172	370
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	RW	166	358
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	RW	173	373
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	RW	170	367
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	RW	164	353
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	RW	172	370
233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	RW	153	329
234	Irvine Center Drive	Spectrum to Pacifica	68.9	RW	153	330
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	RW	159	344
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	RW	136	293
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	69.7	RW	173	373
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	RW	157	339
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	RW	135	290
240	Irvine Center Drive	Harvard Avenue to Hearthstone	69.2	RW	159	344
241	Irvine Center Drive	Research to Hubble	67.9	RW	130	281
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	RW	113	243

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Table 5

243	Irvine Center Drive	Bake Parkway to Muller	67.9	RW	130	281
244	Irvine Center Drive	Discovery to Charter	67.3	RW	119	256
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	RW	129	278
246	Irvine Center Drive	Muller to Tesla	67.7	RW	127	273
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	RW	125	270
248	Irvine Center Drive	Tesla to Scientific Way	67.1	RW	116	250
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	RW	117	253
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	RW	109	235
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	RW	111	238
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	RW	112	240
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	RW	171	368
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.3	163	350	755
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.1	176	380	818
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.5	143	309	665
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.5	272	586	1,263
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.5	143	309	665
259	Jamboree Road	Main Street to Kelvin Avenue	75.7	241	519	1,119
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	73.6	192	414	893
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.5	231	498	1,074
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.4	229	494	1,064
263	Jamboree Road	Birch Street to Campus Drive	72.1	116	251	541
264	Jamboree Road	Dupont Drive to Michelson Drive	73.3	132	284	613
265	Jamboree Road	Alton Parkway to Beckman	75.2	222	477	1,028
266	Jamboree Road	Fairchild Road to Birch Street	72.2	113	243	523
267	Jamboree Road	Beckman to Barranca Parkway	75.0	215	464	1,000
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	74.9	211	455	981
269	Jamboree Road	Campus Drive to Dupont Drive	72.5	118	254	548
270	Jamboree Road	El Camino Real to West Drive	74.9	211	455	981
271	Jamboree Road	West Drive to Bryan Avenue	74.9	211	455	981
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.5	199	428	922
273	Jamboree Road	Koll Center to Fairchild Road	71.7	103	222	479

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Table 5

274	Jamboree Road	MacArthur Boulevard to Koll Center	71.8	106	229	493
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.0	84	180	388
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.0	254	547	1,179
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.1	222	479	1,032
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.8	212	457	984
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	70.9	97	208	448
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	71.8	106	229	493
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.4	89	192	413
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.3	88	190	410
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.2	87	187	402
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.4	89	191	411
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.3	87	188	405
286	Jeffrey Road	Quail Creek to Alton Parkway	70.4	89	191	411
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.1	86	185	398
288	Jeffrey Road	Trabuco Road to Hideaway	69.4	RW	165	356
289	Jeffrey Road	Hideaway to Bryan Avenue	69.4	RW	165	356
290	Jeffrey Road	Roosevelt to Grove	70.0	80	172	371
291	Jeffrey Road	Grove to Trabuco Road	70.0	80	172	371
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.1	RW	135	292
293	Jeffrey Road	Encore to Portola Parkway	64.0	RW	RW	156
294	Jeffrey Road	Irvine Boulevard to Encore	64.0	RW	RW	156
295	Jeronimo Road	Goodyear to Bake Parkway	64.4	RW	RW	123
296	Jeronimo Road	Alton Parkway to Goodyear	64.1	RW	RW	117
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	72.6	125	269	579
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	RW	95	205
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	RW	RW	131
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	RW	59	126
301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	RW	RW	109
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	RW	59	126
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	RW	68	146
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	RW	RW	124

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Table 5

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	64.8	RW	RW	131
306	Laguna Canyon Road	Barranca Parkway to Waterworks	63.9	RW	RW	113
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	68.3	RW	104	223
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	68.3	RW	104	223
309	Lake Forest Drive	Tesla to Bake Parkway	65.3	RW	88	190
310	Lake Road	Alton Parkway to Barranca Parkway	59.0	RW	RW	RW
311	Lynx	Irvine Boulevard to Astor	0.0	RW	RW	RW
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.0	250	539	1,162
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	75.8	245	529	1,139
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	75.7	239	514	1,107
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.7	RW	172	370
316	MacArthur Boulevard	Fairchild Road to University Drive	69.7	RW	172	370
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.4	85	183	395
318	MacArthur Boulevard	Michelson Drive to Douglas	71.3	121	261	562
319	MacArthur Boulevard	Douglas to Campus Drive	71.3	121	261	562
320	MacArthur Boulevard	Skypark to Main Street	69.0	RW	148	320
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.0	RW	134	289
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.5	RW	106	228
323	MacArthur Boulevard	Campus Drive to Birch Street	68.5	RW	172	371
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	RW	157	339
325	Main Street	MacArthur Boulevard to Mercantile	69.4	RW	157	339
326	Main Street	Executive Park to MacArthur Boulevard	67.7	RW	127	273
327	Main Street	Von Karman Avenue to Cartwright	67.2	RW	117	253
328	Main Street	McDurmott to Red Hill Avenue	67.9	RW	131	283
329	Main Street	Red Hill Avenue to Executive Circle	67.7	RW	127	273
330	Main Street	Jamboree Road to Union	67.4	RW	122	262
331	Main Street	Culver Drive to West Yale Loop	67.0	RW	85	184
332	Main Street	Siglo to Jamboree Road	67.2	RW	117	253
333	Main Street	Veneto to Harvard Avenue	67.4	RW	122	262
334	Main Street	Paseo Westpark to Culver Drive	66.2	RW	75	161
335	Main Street	Harvard Avenue to San Mateo	66.2	RW	75	161

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Table 5

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	RW	77	165
337	Marine Way	Alton Parkway to Bake Parkway	0.0	RW	RW	RW
338	Marine Way	Lynx to Barranca Parkway	0.0	RW	RW	RW
339	Marine Way	County Access to Treble	59.3	RW	RW	RW
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	RW	RW	85
341	Marine Way	Skyhawk to County Access	59.3	RW	RW	RW
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	RW	RW	RW
343	Marine Way	Treble to Lynx	0.0	RW	RW	RW
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	62.2	RW	RW	87
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	62.1	RW	RW	86
346	McGaw Avenue	Daimler to Red Hill Avenue	61.0	RW	RW	72
347	McGaw Avenue	Jamboree Road to Murphy Avenue	57.6	RW	RW	RW
348	Meadowood	Culver Drive to Canyonwood	59.5	RW	RW	RW
349	Meridian	Spectrum to Alton Parkway	54.7	RW	RW	RW
350	Meridian	Alton Parkway to Gateway Boulevard	53.5	RW	RW	RW
351	Merit	Irvine Boulevard to Cadence	59.3	RW	RW	RW
352	Michelson Drive	Riparian to Harvard Avenue	66.7	RW	82	176
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.3	RW	46	98
354	Michelson Drive	Von Karman Avenue to Obsidian	66.7	RW	81	175
355	Michelson Drive	Parkside to Culver Drive	66.2	RW	75	161
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.3	RW	46	98
357	Michelson Drive	Carlson to Prince	65.4	RW	80	173
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	66.7	RW	81	175
359	Michelson Drive	Harvard Avenue to Parkside	66.2	RW	75	161
360	Michelson Drive	Bixby to Von Karman Avenue	64.9	RW	RW	133
361	Michelson Drive	Jamboree Road to Carlson	68.0	RW	96	206
362	Michelson Drive	Teller to Jamboree Road	68.7	RW	106	229
363	Michelson Drive	Jordan East to University Drive	66.6	RW	38	82
364	Michelson Drive	Culver Drive to Angell	65.9	RW	46	99
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	70.7	33	72	154
366	Modjeska (A Street)	South of Irvine Boulevard	61.4	RW	RW	47

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Table 5

367	Muirlands Boulevard	Bake Parkway to City Limits	66.4	RW	77	167
368	Muirlands Boulevard	Alton Parkway to Sterling	66.1	RW	74	159
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.1	RW	74	159
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	65.9	RW	71	154
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.0	RW	RW	134
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	60.8	RW	RW	70
373	Northwood	Yale Avenue to Savannah	62.3	RW	RW	53
374	Northwood	Goldrush to Yale Avenue	60.5	RW	RW	40
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	RW	45	97
376	Pacifica	Gateway to Barranca Parkway	63.3	RW	RW	104
377	Pacifica	Alton Parkway to Gateway	61.8	RW	RW	83
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	61.7	RW	RW	81
379	Pacifica	Meridian to Alton Parkway	58.1	RW	RW	RW
380	Park Place	Christamon South to Yale Avenue	56.8	RW	RW	RW
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	65	140	302
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	65	140	302
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	RW	126	272
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	RW	126	272
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	RW	68	146
386	Portola Parkway	Gatepark to Culver Drive	69.6	RW	171	369
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	69.6	RW	171	369
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	69.6	RW	171	369
389	Portola Parkway	Jamboree Road to Bellevue	69.6	RW	171	369
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	69.6	RW	171	369
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	RW	146	314
392	Portola Parkway	Culver Drive to Yale Avenue	68.6	RW	146	314
393	Portola Parkway	Silverado to Portola Springs	66.5	RW	79	170
394	Pusan	Irvine Boulevard to Cadence	54.0	RW	RW	RW
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.3	RW	90	193
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	64.8	RW	RW	131
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.4	RW	RW	RW

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Table 5

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	70.8	96	206	444
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.6	RW	127	274
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.5	RW	168	361
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.3	RW	163	351
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.3	RW	162	350
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	70.2	62	133	287
404	Red Hill Avenue	Main Street to Skypark East	69.6	RW	122	263
405	Research Drive	Hubble to Bake Parkway	65.4	RW	66	143
406	Research Drive	Scientific to Lake Forest Drive	65.6	RW	68	147
407	Research Drive	Bake Parkway to Muller	66.2	RW	75	161
408	Research Drive	Irvine Center Drive to Bunsen	64.9	RW	RW	132
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	RW	67	145
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	65.9	RW	71	154
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	65.8	RW	70	152
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.0	RW	RW	RW
413	Ridgeline Drive	Concordia East to University Drive	67.7	RW	60	130
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	67.7	RW	60	130
415	Rockfield Avenue	Whatney to McLaren	66.3	RW	77	165
416	Rockfield Avenue	Bake Parkway to Whatney	62.5	RW	RW	92
417	Rockfield Avenue	Thomas to Bake Parkway	62.5	RW	RW	92
418	Roosevelt	Jeffrey Road to Vision	65.2	RW	65	139
419	Roosevelt	Yale Avenue to Van Buren	67.9	RW	47	101
420	Roosevelt	Vision to Bay Tree	64.5	RW	RW	124
421	Roosevelt	Nimitz to Jeffrey Road	65.2	RW	65	139
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	63.7	RW	RW	110
423	Royal Oak	Alton Parkway to Eaglecreek	63.8	RW	RW	54
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	93	200	432
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	70.6	92	197	425
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	73.6	104	225	485
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	96	206	445
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	151	326	703

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Table 5

429	Sand Canyon Avenue	Trabuco Road to Towngate	70.0	84	181	390
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	RW	160	344
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	72.7	151	326	703
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	RW	163	351
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.3	167	359	774
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	72.4	86	186	400
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.2	164	354	762
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	69.3	RW	163	352
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	69.2	RW	160	344
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	RW	99	214
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.6	149	320	689
440	Sand Canyon Avenue	Alton Parkway to Hospital	69.7	RW	165	356
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.3	74	159	342
442	Scientific Way	Irvine Center Drive to Wald	54.6	RW	RW	RW
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.6	RW	66	141
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.1	RW	69	148
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	4	10	21
446	Southwood	Yale Avenue to Colt	60.5	RW	RW	40
447	Southwood	Challenger to Yale Avenue	59.9	RW	RW	RW
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.4	RW	RW	78
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.0	RW	RW	85
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	56.9	RW	RW	RW
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	RW	85	184
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	RW	RW	102
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	RW	RW	96
454	Technology Drive	Ada to Alton Parkway	57.8	RW	RW	RW
455	Toledo Way	Bake Parkway to City Limits	65.5	RW	67	145
456	Toledo Way	Goodyear to Bake Parkway	64.5	RW	RW	125
457	Toledo Way	Alton Parkway to Parker	63.9	RW	RW	114
458	Trabuco Road	Keystone to Sand Canyon Avenue	66.7	RW	81	175
459	Trabuco Road	Jeffrey Road to Keystone	66.7	RW	81	175

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Table 5

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.3	RW	77	165
461	Trabuco Road	Monroe to Yale Avenue	66.3	RW	77	165
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.3	RW	77	165
463	Trabuco Road	Yale Avenue to Remington	65.7	RW	70	151
464	Trabuco Road	Remington to Jeffrey Road	65.7	RW	70	151
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	RW	RW	RW
466	Turtle Rock Drive	Ridgeline to Willowleaf	66.9	RW	50	108
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.0	RW	51	110
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.7	RW	48	104
469	Turtle Rock Drive	Sunnyhill to Southernwood	63.9	RW	RW	68
470	Turtle Rock Drive	Campus Drive to Hillgate	63.8	RW	RW	112
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.3	RW	42	90
472	University Drive	Golden Glow to Yale Avenue	72.2	87	188	405
473	University Drive	Ridgeline to Michelson Drive	72.1	104	223	481
474	University Drive	Culver Drive to Golden Glow	72.1	86	185	398
475	University Drive	Yale Avenue to Ridgeline	72.0	85	184	395
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.3	119	256	552
477	University Drive	Mesa to Campus Drive	73.3	99	214	462
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	73.3	99	214	462
479	University Drive	California Avenue to Mesa	73.3	99	214	462
480	University Drive	Campus Drive to Harvard Avenue	69.5	RW	167	359
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	70.4	53	114	247
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	69.2	RW	159	344
483	University Drive	San Joaquin to Culver Drive	68.7	RW	149	321
484	University Drive	Harvard Avenue to San Joaquin	68.7	RW	149	321
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	RW	RW	99
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	RW	51	110
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	RW	RW	98
488	Valley Oak Drive	Alton Parkway to Hawkcreek	63.8	RW	RW	111
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	RW	114	246
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	RW	112	242

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Table 5

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	RW	121	260
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	RW	127	273
493	Von Karman Avenue	Main Street to Anchor	69.2	RW	118	255
494	Von Karman Avenue	Anchor to McGaw Avenue	69.2	RW	118	255
495	Von Karman Avenue	Morse to Main Street	69.2	RW	118	255
496	Von Karman Avenue	Martin to Dupont Drive	67.8	RW	97	208
497	Von Karman Avenue	Campus Drive to Martin	67.8	RW	97	208
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	RW	97	208
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	RW	113	244
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.6	RW	109	235
501	Walnut Avenue	The Mall Street to Culver Drive	68.2	RW	103	222
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.2	RW	103	222
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.0	RW	100	214
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.0	RW	100	214
505	Walnut Avenue	Culver Drive to Franciscan Street	68.0	RW	100	214
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.0	RW	113	244
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.0	RW	113	244
508	Walnut Avenue	Yale Avenue to Kazan Street	66.3	RW	76	164
509	Walnut Avenue	Wisteria to Jeffrey Road	66.3	RW	76	164
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	69.6	RW	126	272
511	Warner Avenue	Construction North to Harvard Avenue	67.8	RW	96	206
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.1	RW	74	159
513	Warner Avenue	Santa Ynez to Culver Drive	65.1	RW	64	137
514	Warner Avenue	Culver Drive to West Yale Loop	64.9	RW	RW	133
515	West Yale Loop	Alton Parkway to Blue Lake North	63.3	RW	RW	104
516	West Yale Loop	Eagle Run to Main Street	63.3	RW	RW	104
517	West Yale Loop	Thunder Run to Yale Avenue	62.7	RW	RW	95
518	West Yale Loop	Main Street to Timber Run	62.7	RW	RW	95
519	West Yale Loop	Yale Avenue to Shorebird	61.8	RW	RW	83
520	West Yale Loop	Warner Avenue to Stonecreek South	61.8	RW	RW	83
521	West Yale Loop	Barranca Parkway to Alton Parkway	61.7	RW	RW	81

Table 5

522	West Yale Loop	Stonecreek North to Warner Avenue	61.8	RW	RW	83
523	West Yale Loop	Birdsong to Barranca Parkway	61.8	RW	RW	83
524	Westwood	Yorktown to Bryan Avenue	63.2	RW	RW	61
525	Westwood	Bryan Avenue to Leaf	61.3	RW	RW	46
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.5	RW	64	138
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.2	RW	52	113
528	Yale Avenue	Walnut Avenue to Roosevelt	70.7	44	96	206
529	Yale Avenue	Roosevelt to Trabuco Road	66.9	RW	83	179
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.5	RW	79	169
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	RW	63	135
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.6	RW	69	148
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.6	RW	69	148
534	Yale Avenue	Trabuco Road to Southwood	65.1	RW	63	136
535	Yale Avenue	Southwood to Bryan Avenue	65.1	RW	63	136
536	Yale Avenue	Northwood to Irvine Boulevard	64.8	RW	RW	131
537	Yale Avenue	Bryan Avenue to Monticello	64.8	RW	RW	131
538	Yale Avenue	Irvine Boulevard to Park Place	64.1	RW	RW	117
539	Yale Avenue	University Drive to Royce	57.9	RW	RW	RW
540	Yale Court	Arborwood to Portola Parkway	60.0	RW	RW	38

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

Table 6: Current General Plan Conditions Noise Contours

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ada	Barranca Parway to Marine Way	0.0	RW	RW	RW
2	Ada	Alton Parkway to Barranca PArkway	67.1	RW	86	186
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	72.6	125	269	579
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	73.3	132	284	613
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.5	79	170	367
6	Alton Parkway	Gateway Boulevard to Enterprise	70.5	91	195	421
7	Alton Parkway	Jeffrey Road to Royal Oak	70.4	66	143	308
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.4	67	144	310
9	Alton Parkway	Culver Drive to West Yale Loop	70.5	68	146	315
10	Alton Parkway	West Yale Loop to Lake Road	70.5	67	145	311
11	Alton Parkway	Technology Drive West to Ada	71.4	99	213	458
12	Alton Parkway	Creek Road to East Yale Loop	70.3	66	141	304
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	69.9	RW	134	288
14	Alton Parkway	Lake Road to Creek Road	70.3	65	140	303
15	Alton Parkway	Telemetry to Banting	69.8	RW	130	279
16	Alton Parkway	Irvine Boulevard to Commercentre	71.0	98	210	453
17	Alton Parkway	Jenner to Telemetry	69.7	RW	129	278
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	69.8	RW	176	379
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.6	105	226	487
20	Alton Parkway	Laguna Canyon Road to Jenner	69.7	RW	128	276
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	70.4	89	191	412
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.7	RW	128	277
23	Alton Parkway	Banting to Pacifica	69.3	RW	121	262
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.3	88	190	409
25	Alton Parkway	Ada to Technology Drive East	70.2	87	187	402

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Table 6

26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.2	RW	119	256
27	Alton Parkway	Jeronimo Road to Hughes	69.9	RW	179	385
28	Alton Parkway	Hughes to Morgan	69.7	RW	172	370
29	Alton Parkway	Morgan to Toledo Way	69.0	RW	154	332
30	Alton Parkway	San Marino to Culver Drive	69.0	RW	155	334
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.6	RW	147	316
32	Alton Parkway	Hospital to Laguna Canyon Road	71.5	75	162	349
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.4	74	160	346
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.5	RW	143	308
35	Alton Parkway	Foster to Irvine Boulevard	69.0	RW	155	334
36	Alton Parkway	Fairbanks to Foster	68.7	RW	148	319
37	Alton Parkway	Toledo Way to Bertea	68.4	RW	142	306
38	Alton Parkway	Pacifica to Meridian	70.7	67	144	310
39	Alton Parkway	Bertea to Fairbanks	68.3	RW	140	301
40	Alton Parkway	Meridian to Irvine Center Drive	67.5	RW	124	267
41	Alton Parkway	Paseo Westpark to San Marino	68.0	RW	134	288
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.1	RW	117	252
43	Astor	Lynx to Fairbanks	66.9	RW	50	109
44	Astor	Cadence to Lynx	66.0	RW	44	95
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.4	268	578	1245
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.9	131	281	606
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.1	217	468	1009
48	Bake Parkway	Jeronimo Road to Toledo Way	72.0	114	245	528
49	Bake Parkway	Toledo Way to Cromwell	71.6	108	232	500
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	108	232	501
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.3	RW	163	352
52	Bake Parkway	Irvine Center Drive to Research Drive	64.6	RW	RW	170
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.0	RW	RW	133
54	Banting	Alton Parkway to Barranca Parkway	59.3	RW	RW	RW
55	Barranca Parkway	Pacifica to Irvine Center Drive	71.7	81	174	375
56	Barranca Parkway	Banting to Pacifica	71.8	83	179	385

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Table 6

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	70.9	71	154	331
58	Barranca Parkway	Technology Drive West to Ada	71.5	78	169	364
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	70.8	70	152	327
60	Barranca Parkway	Culver Drive to West Yale Loop	72.0	85	183	394
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	82	176	379
62	Barranca Parkway	West Yale Loop to Lake Road	71.8	82	177	382
63	Barranca Parkway	Ada to Alton Parkway	72.3	89	191	411
64	Barranca Parkway	Lake Road to Creek Road	71.4	78	168	362
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.4	196	423	911
66	Barranca Parkway	Discovery/Herchel to Banting	71.1	74	159	343
67	Barranca Parkway	Lyon to East Yale Loop	71.1	74	160	345
68	Barranca Parkway	Creek Road to Lyon	71.1	74	159	342
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.4	116	249	536
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	70.6	68	147	317
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.1	110	238	513
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.4	66	143	308
73	Barranca Parkway	Jamboree Road to Construction Circle	70.7	94	202	436
74	Barranca Parkway	Santa Rosa to Culver Drive	70.6	92	198	427
75	Barranca Parkway	FedEx to Discovery/Herchel	69.6	RW	126	271
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	69.7	RW	129	278
77	Barranca Parkway	Laguna Canyon Road to FedEx	69.4	RW	124	266
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.4	170	366	788
79	Barranca Parkway	Construction Circle to Fire Station	70.1	85	183	395
80	Barranca Parkway	Fire Station to Harvard Avenue	70.1	85	183	395
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.1	85	184	396
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.7	RW	173	374
83	Bay Tree	Trabuco Road to Roosevelt	57.2	RW	RW	RW
84	Beacon	Ridge Valley to Benchmark	59.0	RW	RW	RW
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.7	RW	RW	RW
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.7	RW	129	278
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.2	77	167	359

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Table 6

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.5	RW	129	278
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	RW	122	263
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.9	RW	117	252
91	Bosque	Cadence to Great Park Boulevard	64.8	RW	RW	79
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.0	RW	RW	59
93	Bosque	Benchmark to Cadence	63.0	RW	RW	59
94	Bosque	Great Park Boulevard to Beacon	56.9	RW	RW	RW
95	Bosque	Beacon to S 5th Street	55.9	RW	RW	RW
96	Bryan Avenue	Jamboree Road to Market Place	68.9	RW	114	245
97	Bryan Avenue	Market Place to El Camino Real	68.9	RW	114	245
98	Bryan Avenue	Rubicon to Culver Drive	68.9	RW	114	245
99	Bryan Avenue	El Camino Real to Rubicon	68.9	RW	114	245
100	Bryan Avenue	Eastwood to Jeffrey Road	66.3	RW	76	165
101	Bryan Avenue	Westwood to Yale Avenue	66.3	RW	77	165
102	Bryan Avenue	Culver Drive to Westwood	66.4	RW	78	168
103	Bryan Avenue	Yale Avenue to Eastwood	66.0	RW	73	157
104	Cadence	Pusan to Chinon	64.1	RW	RW	71
105	Cadence	Bosque to Pusan	64.2	RW	RW	71
106	Cadence	Ridge Valley (O Street) to Bosque	64.0	RW	RW	69
107	Cadence	Chinon to Merit	59.1	RW	RW	RW
108	Cadence	Merit to Astor	58.6	RW	RW	RW
109	California Avenue	University Drive to Academy Way	66.2	RW	75	161
110	California Avenue	Campus Drive to Harvard Avenue	64.1	RW	RW	118
111	California Avenue	Theory to Bison Avenue	64.0	RW	RW	116
112	Campus Drive	Carlson Avenue to University Drive	73.0	79	171	369
113	Campus Drive	University Drive to Bridge Road	71.7	81	174	374
114	Campus Drive	Jamboree Road to Carlson Avenue	71.3	76	164	353
115	Campus Drive	Stanford Court to Berkeley Avenue	71.0	73	158	341
116	Campus Drive	California Avenue to Culver Drive	70.9	72	155	333
117	Campus Drive	Berkeley Avenue to Cornell	69.9	RW	133	286
118	Campus Drive	Martin to Von Karman Avenue	68.7	RW	110	238

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Table 6

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.6	RW	109	235
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.1	RW	100	216
121	Campus Drive	MacArthur Boulevard to Martin	68.1	RW	100	216
122	Campus Drive	Teller Avenue to Jamboree Road	67.2	RW	88	190
123	Carlson Avenue	Michelson Drive to Campus Drive	67.8	RW	97	208
124	Chinon	Irvine Boulevard to Cadence	58.3	RW	RW	RW
125	Creek Road	Alton Parkway to Barranca Parkway	56.0	RW	RW	RW
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.7	149	320	690
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.9	152	327	705
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	153	329	709
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.9	152	328	707
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	147	316	681
131	Culver Drive	San Leandro to Main Street	73.3	140	302	651
132	Culver Drive	Harvard Avenue to University Drive	73.3	139	300	646
133	Culver Drive	Trabuco Road to Farwell Avenue	74.4	156	337	725
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	137	296	638
135	Culver Drive	Main Street to Alton Parkway	73.1	135	290	626
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	133	286	615
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.9	132	284	612
138	Culver Drive	Barranca Parkway to Warner Avenue	72.8	129	279	601
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.1	86	185	399
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.6	125	269	580
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	123	266	572
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	122	262	566
143	Culver Drive	Palo Verde to Campus Drive	71.6	80	172	370
144	Culver Drive	University Drive to Sandburg Way	72.2	117	252	543
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.3	132	284	612
146	Culver Drive	Campus Drive to High School	72.1	116	250	540
147	Culver Drive	High School to Harvard Avenue	72.0	115	248	534
148	Culver Drive	Bryan Avenue to Florence	71.8	111	238	513
149	Culver Drive	Portola Parkway to Settlers	71.1	74	159	342

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Table 6

150	Culver Drive	Florence to Irvine Boulevard	71.7	109	235	506
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	91	196	423
152	Culver Drive	Viewpark to Meadowood	70.5	91	195	421
153	Culver Drive	Settlers to Furrow	68.3	RW	104	224
154	Culver Drive	Meadowood to Portola Parkway	69.0	RW	154	333
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	63.8	RW	RW	111
156	Discovery Drive	Waterworks Way to Irvine Center Drive	60.7	RW	RW	70
157	East Yale Loop	Alton Parkway to Witherspoon	65.3	RW	65	140
158	East Yale Loop	Osborn Street to Barranca Parkway	65.0	RW	RW	135
159	East Yale Loop	Yale Avenue to Springbrook South	64.3	RW	RW	121
160	East Yale Loop	Springbrook North to Alton Parkway	63.4	RW	RW	105
161	East Yale Loop	Woodspring to Yale Avenue	62.5	RW	RW	92
162	East Yale Loop	Barranca Parkway to Eastshore	62.5	RW	RW	92
163	Eastwood	Bryan Avenue to Monticello	60.5	RW	RW	40
164	Eastwood	Columbus to Bryan Avenue	58.8	RW	RW	RW
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.0	RW	85	183
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	RW	RW	90
167	Fairbanks	Alton Parkway to Astor	69.7	RW	77	166
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.8	RW	49	107
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.0	RW	RW	116
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	62.8	RW	RW	96
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	61.6	RW	RW	80
172	Gateway Boulevard	Irvine Center Drive to Meridian	58.4	RW	RW	RW
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.1	113	244	525
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	69.7	RW	129	279
175	Great Park Boulevard (EB)	Bosque to Skyhawk	68.0	RW	60	129
176	Great Park Boulevard (WB)	Bosque to Skyhawk	67.6	RW	56	120
177	Harvard Avenue	University Drive to Michelson Drive	71.8	49	106	229
178	Harvard Avenue	Michelson Drive to Coronado	70.2	64	138	298
179	Harvard Avenue	San Marino to Alton Parkway	70.0	RW	134	289
180	Harvard Avenue	Coronado to Main Street	70.0	63	135	290

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Table 6

181	Harvard Avenue	San Carlo to San Marino	69.9	RW	132	284
182	Harvard Avenue	Main Street to San Carlo	69.8	RW	130	281
183	Harvard Avenue	Alton Parkway to San Leon	68.8	RW	111	239
184	Harvard Avenue	San Juan to Barranca Parkway	68.6	RW	109	236
185	Harvard Avenue	San Leon to San Juan	68.6	RW	108	233
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.4	RW	91	196
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.4	RW	91	195
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.9	RW	97	209
189	Harvard Avenue	Bridge Road to University Drive	67.6	RW	93	199
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.7	RW	95	205
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.7	RW	89	191
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.0	RW	85	183
193	Harvard Avenue	Culver Drive to California Avenue	66.9	RW	84	181
194	Harvard Avenue	Berkeley to Bridge Road	67.0	RW	85	183
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.8	RW	82	178
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.4	RW	RW	RW
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.5	RW	RW	RW
198	Hubble	Irvine Center Drive to Bunsen	55.7	RW	RW	RW
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.3	120	258	557
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.2	118	254	547
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.1	128	277	596
202	Irvine Boulevard	Merit to Alton	71.6	108	232	500
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.6	108	232	501
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.2	100	216	466
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	98	211	455
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.6	92	197	425
207	Irvine Boulevard	Culver Drive to Palo Lado	70.6	92	199	429
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.6	92	198	427
209	Irvine Boulevard	Old Myford Road to Market Place	70.5	91	196	423
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.7	93	200	432
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.5	90	195	419

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Table 6

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.4	90	194	417
213	Irvine Boulevard	Jeffrey Road to Groveland	70.8	95	205	441
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.9	96	206	444
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to JeffreyRoad	70.5	91	196	421
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	90	194	418
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.2	87	188	405
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.1	85	183	395
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.1	85	183	394
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	87	188	404
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.6	RW	171	369
222	Irvine Boulevard	Parker to Bake Parkway	69.6	RW	170	366
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	RW	146	315
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.5	118	254	548
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	71.4	105	225	486
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.1	111	238	513
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.3	103	221	476
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.0	99	212	458
229	Irvine Center Drive	Culver Drive to Deerwood	71.0	98	211	455
230	Irvine Center Drive	Deerwood to Yale Avenue	71.0	97	210	451
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	70.9	97	208	449
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.1	99	213	458
233	Irvine Center Drive	Alton Parkway to Spectrum	70.4	90	193	416
234	Irvine Center Drive	Spectrum to Pacifica	70.3	88	191	411
235	Irvine Center Drive	Hearthstone to Culver Drive	70.6	93	200	430
236	Irvine Center Drive	Charter to Barranca Parkway	70.2	87	187	402
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.3	88	189	407
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.3	88	189	408
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.0	84	181	391
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.0	RW	180	387
241	Irvine Center Drive	Research to Hubble	69.8	RW	176	379
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	69.4	RW	165	356

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Table 6

243	Irvine Center Drive	Bake Parkway to Muller	69.9	RW	179	386
244	Irvine Center Drive	Discovery to Charter	69.3	RW	163	350
245	Irvine Center Drive	Hubble to Bake Parkway	69.7	RW	173	373
246	Irvine Center Drive	Muller to Tesla	69.5	RW	167	359
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.0	RW	155	335
248	Irvine Center Drive	Tesla to Scientific Way	69.2	RW	160	345
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.9	RW	154	331
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.3	RW	140	302
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.2	RW	137	295
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.3	RW	140	301
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	70.8	95	204	441
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	168	362	780
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.4	183	395	851
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.8	152	327	704
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.9	288	619	1335
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.6	146	314	677
259	Jamboree Road	Main Street to Kelvin Avenue	76.2	257	554	1194
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.2	209	450	969
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.8	245	528	1137
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.8	243	523	1126
263	Jamboree Road	Birch Street to Campus Drive	72.6	125	269	581
264	Jamboree Road	Dupont Drive to Michelson Drive	73.5	138	297	639
265	Jamboree Road	Alton Parkway to Beckman	75.4	229	494	1064
266	Jamboree Road	Fairchild Road to Birch Street	73.2	130	281	605
267	Jamboree Road	Beckman to Barranca Parkway	75.2	222	478	1029
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	218	470	1013
269	Jamboree Road	Campus Drive to Dupont Drive	72.7	122	263	566
270	Jamboree Road	El Camino Real to West Drive	75.1	218	470	1013
271	Jamboree Road	West Drive to Bryan Avenue	75.1	218	469	1011
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.8	208	449	968
273	Jamboree Road	Koll Center to Fairchild Road	72.5	117	251	541

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Table 6

274	Jamboree Road	MacArthur Boulevard to Koll Center	72.5	117	252	543
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.8	95	206	443
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.1	257	554	1194
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.2	227	488	1052
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.9	217	467	1006
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.3	102	220	474
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.2	113	242	522
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.8	95	205	443
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.5	91	196	422
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.6	93	200	430
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.5	90	195	419
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.4	90	194	418
286	Jeffrey Road	Quail Creek to Alton Parkway	70.5	91	195	420
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.3	88	189	408
288	Jeffrey Road	Trabuco Road to Hideaway	69.7	RW	173	372
289	Jeffrey Road	Hideaway to Bryan Avenue	69.7	RW	172	371
290	Jeffrey Road	Roosevelt to Grove	70.4	84	182	392
291	Jeffrey Road	Grove to Trabuco Road	70.3	84	181	390
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.5	RW	144	310
293	Jeffrey Road	Encore to Portola Parkway	66.1	RW	99	213
294	Jeffrey Road	Irvine Boulevard to Encore	65.6	RW	93	200
295	Jeronimo Road	Goodyear to Bake Parkway	64.8	RW	RW	130
296	Jeronimo Road	Alton Parkway to Goodyear	64.7	RW	RW	128
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.3	140	302	650
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	70.0	RW	134	289
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	68.1	RW	101	217
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	68.0	RW	79	171
301	Laguna Canyon Road	Irvine Center Drive to Discovery	67.3	RW	89	192
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	68.0	RW	79	171
303	Laguna Canyon Road	Pasteur to Alton Parkway	66.9	RW	84	181
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	66.2	RW	75	162

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Table 6

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.0	RW	73	158
306	Laguna Canyon Road	Barranca Parkway to Waterworks	65.6	RW	69	148
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.2	RW	119	257
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.2	RW	119	256
309	Lake Forest Drive	Tesla to Bake Parkway	66.2	RW	102	219
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	RW	RW	RW
311	Lynx	Irvine Boulevard to Astor	53.5	RW	RW	RW
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.4	267	576	1241
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.5	272	586	1262
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.4	267	575	1240
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	RW	178	382
316	MacArthur Boulevard	Fairchild Road to University Drive	69.8	RW	174	376
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	86	186	401
318	MacArthur Boulevard	Michelson Drive to Douglas	71.8	131	283	610
319	MacArthur Boulevard	Douglas to Campus Drive	71.9	133	286	617
320	MacArthur Boulevard	Skypark to Main Street	69.6	RW	161	347
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.5	RW	143	308
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.8	RW	111	239
323	MacArthur Boulevard	Campus Drive to Birch Street	69.1	RW	187	404
324	Main Street	Gillette Avenue to Von Karman Avenue	70.2	82	177	380
325	Main Street	MacArthur Boulevard to Mercantile	69.9	RW	170	366
326	Main Street	Executive Park to MacArthur Boulevard	68.2	RW	137	294
327	Main Street	Von Karman Avenue to Cartwright	67.8	RW	129	279
328	Main Street	McDurmott to Red Hill Avenue	68.0	RW	133	286
329	Main Street	Red Hill Avenue to Executive Circle	67.9	RW	131	283
330	Main Street	Jamboree Road to Union	67.7	RW	127	274
331	Main Street	Culver Drive to West Yale Loop	67.2	RW	88	190
332	Main Street	Siglo to Jamboree Road	67.4	RW	121	261
333	Main Street	Veneto to Harvard Avenue	67.6	RW	126	271
334	Main Street	Paseo Westpark to Culver Drive	66.4	RW	77	167
335	Main Street	Harvard Avenue to San Mateo	66.3	RW	76	164

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Table 6

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.1	69	149	320
337	Marine Way	Alton Parkway to Bake Parkway	69.0	RW	116	250
338	Marine Way	Lynx to Barranca Parkway	69.4	RW	123	264
339	Marine Way	County Access to Treble	65.3	RW	66	142
340	Marine Way	Ridge Valley (O Street) to Skyhawk	67.6	RW	92	199
341	Marine Way	Skyhawk to County Access	64.9	RW	RW	133
342	Marine Way	Barranca Parkway to Alton Parkway	66.3	RW	76	164
343	Marine Way	Treble to Lynx	67.1	RW	86	185
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	63.6	RW	RW	109
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	63.6	RW	RW	109
346	McGaw Avenue	Daimler to Red Hill Avenue	62.4	RW	RW	91
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.2	RW	RW	RW
348	Meadowood	Culver Drive to Canyonwood	59.8	RW	RW	RW
349	Meridian	Spectrum to Alton Parkway	54.9	RW	RW	RW
350	Meridian	Alton Parkway to Gateway Boulevard	54.1	RW	RW	RW
351	Merit	Irvine Boulevard to Cadence	57.3	RW	RW	RW
352	Michelson Drive	Riparian to Harvard Avenue	67.8	RW	97	208
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.7	RW	49	105
354	Michelson Drive	Von Karman Avenue to Obsidian	67.8	RW	95	206
355	Michelson Drive	Parkside to Culver Drive	66.8	RW	83	178
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.5	RW	47	102
357	Michelson Drive	Carlson to Prince	67.0	RW	101	218
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.0	RW	84	182
359	Michelson Drive	Harvard Avenue to Parkside	66.8	RW	83	178
360	Michelson Drive	Bixby to Von Karman Avenue	66.3	RW	76	165
361	Michelson Drive	Jamboree Road to Carlson	69.5	RW	119	256
362	Michelson Drive	Teller to Jamboree Road	69.5	RW	119	256
363	Michelson Drive	Jordan East to University Drive	66.8	RW	39	85
364	Michelson Drive	Culver Drive to Angell	66.1	RW	47	102
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	39	83	180
366	Modjeska (A Street)	South of Irvine Boulevard	60.6	RW	RW	41

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Table 6

367	Muirlands Boulevard	Bake Parkway to City Limits	67.2	RW	87	188
368	Muirlands Boulevard	Alton Parkway to Sterling	66.3	RW	76	165
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.2	RW	75	162
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.7	RW	81	174
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.2	RW	64	139
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	62.1	RW	RW	86
373	Northwood	Yale Avenue to Savannah	62.4	RW	RW	54
374	Northwood	Goldrush to Yale Avenue	61.3	RW	RW	46
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	67.4	RW	54	117
376	Pacifica	Gateway to Barranca Parkway	64.6	RW	RW	127
377	Pacifica	Alton Parkway to Gateway	63.2	RW	RW	102
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	63.2	RW	RW	102
379	Pacifica	Meridian to Alton Parkway	60.0	RW	RW	RW
380	Park Place	Christamon South to Yale Avenue	57.0	RW	RW	RW
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.3	76	164	353
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.3	76	164	353
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.3	76	164	353
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	70.9	72	155	334
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.0	63	135	291
386	Portola Parkway	Gatepark to Culver Drive	70.3	87	188	405
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.2	87	188	404
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.1	85	184	396
389	Portola Parkway	Jamboree Road to Bellevue	70.1	85	182	393
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.0	84	181	391
391	Portola Parkway	Yale Avenue to Jeffrey Road	69.8	RW	177	381
392	Portola Parkway	Culver Drive to Yale Avenue	69.4	RW	165	356
393	Portola Parkway	Silverado to Portola Springs	68.5	RW	107	231
394	Pusan	Irvine Boulevard to Cadence	56.1	RW	RW	RW
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.6	RW	93	199
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.6	RW	69	148
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.9	RW	RW	RW

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Table 6

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.3	102	219	472
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.9	RW	132	284
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.9	RW	179	385
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.7	RW	174	375
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.7	RW	174	374
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.0	70	150	323
404	Red Hill Avenue	Main Street to Skypark East	70.4	63	136	294
405	Research Drive	Hubble to Bake Parkway	69.5	RW	124	267
406	Research Drive	Scientific to Lake Forest Drive	67.6	RW	93	200
407	Research Drive	Bake Parkway to Muller	66.5	RW	79	170
408	Research Drive	Irvine Center Drive to Bunsen	65.5	RW	67	144
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.4	RW	91	196
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.5	RW	79	170
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	RW	73	157
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	RW	RW	RW
413	Ridgeline Drive	Concordia East to University Drive	68.6	RW	69	149
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.2	RW	65	141
415	Rockfield Avenue	Whatney to McLaren	67.5	RW	92	199
416	Rockfield Avenue	Bake Parkway to Whatney	63.8	RW	RW	112
417	Rockfield Avenue	Thomas to Bake Parkway	62.6	RW	RW	94
418	Roosevelt	Jeffrey Road to Vision	66.1	RW	75	161
419	Roosevelt	Yale Avenue to Van Buren	68.1	RW	48	104
420	Roosevelt	Vision to Bay Tree	65.9	RW	72	155
421	Roosevelt	Nimitz to Jeffrey Road	65.8	RW	70	152
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.6	RW	69	149
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	RW	RW	56
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	71.9	112	241	520
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	71.6	107	232	499
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.4	119	256	551
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.6	118	255	550
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.6	202	434	935

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Table 6

429	Sand Canyon Avenue	Trabuco Road to Towngate	71.3	102	220	474
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	70.6	92	199	429
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	73.8	178	384	828
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.4	89	191	412
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.4	170	366	788
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.4	101	217	469
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.5	171	368	792
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.6	92	198	427
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.0	84	181	390
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	69.3	RW	120	259
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	153	331	712
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.5	86	185	399
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.6	76	164	354
442	Scientific Way	Irvine Center Drive to Wald	54.9	RW	RW	RW
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.8	RW	67	145
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.3	RW	71	153
445	Skyhawk	Great Park Boulevard to Marine Way	60.2	14	30	64
446	Southwood	Yale Avenue to Colt	60.5	9	19	40
447	Southwood	Challenger to Yale Avenue	60.3	8	18	39
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.9	18	39	84
449	Spectrum Center Drive (FortuneDrive)	Quassar Drive (Spectrum) to Gatewayb	62.4	20	42	91
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.0	9	18	40
451	Technology Drive	Barranca Parkway to Alton Parkway	69.9	62	133	286
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	67.1	40	87	186
453	Technology Drive	I-5/SR-133 to Barranca Parkway	66.1	34	74	160
454	Technology Drive	Ada to Alton Parkway	59.9	13	29	62
455	Toledo Way	Bake Parkway to City Limits	65.8	33	70	151
456	Toledo Way	Goodyear to Bake Parkway	64.9	28	61	132
457	Toledo Way	Alton Parkway to Parker	64.5	27	58	126
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.0	39	85	183
459	Trabuco Road	Jeffrey Road to Keystone	66.9	39	84	181

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Table 6

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.6	37	80	173
461	Trabuco Road	Monroe to Yale Avenue	66.5	37	79	170
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.5	37	79	170
463	Trabuco Road	Yale Avenue to Remington	66.0	34	72	156
464	Trabuco Road	Remington to Jeffrey Road	66.0	34	72	156
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.8	52	112	241
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.5	26	55	119
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.4	25	54	116
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.8	23	50	107
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	15	32	69
470	Turtle Rock Drive	Campus Drive to Hillgate	64.0	25	54	116
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.4	20	43	92
472	University Drive	Golden Glow to Yale Avenue	72.6	94	202	435
473	University Drive	Ridgeline to Michelson Drive	72.3	107	231	497
474	University Drive	Culver Drive to Golden Glow	72.5	92	198	427
475	University Drive	Yale Avenue to Ridgeline	72.2	87	188	404
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.4	122	262	564
477	University Drive	Mesa to Campus Drive	74.2	115	247	532
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.2	115	247	533
479	University Drive	California Avenue to Mesa	74.1	113	243	523
480	University Drive	Campus Drive to Harvard Avenue	70.3	88	190	409
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.3	61	132	284
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.0	84	180	389
483	University Drive	San Joaquin to Culver Drive	69.4	76	165	354
484	University Drive	Harvard Avenue to San Joaquin	69.4	76	164	353
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.0	46	100	215
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	67.6	34	74	160
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	65.7	32	70	151
488	Valley Oak Drive	Alton Parkway to Hawkcreek	65.0	29	62	134
489	Von Karman Avenue	Marriott to Morse Avenue	70.6	69	148	318
490	Von Karman Avenue	Michelson Drive to Quartz	70.4	66	143	308

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Table 6

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.1	64	137	296
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	69.7	72	155	334
493	Von Karman Avenue	Main Street to Anchor	69.9	62	134	288
494	Von Karman Avenue	Anchor to McGaw Avenue	69.9	61	132	284
495	Von Karman Avenue	Morse to Main Street	69.9	61	132	285
496	Von Karman Avenue	Martin to Dupont Drive	69.2	55	119	257
497	Von Karman Avenue	Campus Drive to Martin	69.2	55	118	255
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.2	55	119	255
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	70.5	68	146	315
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.9	53	114	245
501	Walnut Avenue	The Mall Street to Culver Drive	68.5	49	106	229
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.4	49	106	228
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.1	47	101	217
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.1	47	101	218
505	Walnut Avenue	Culver Drive to Franciscan Street	68.1	47	101	217
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.6	58	125	270
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.5	57	123	266
508	Walnut Avenue	Yale Avenue to Kazan Street	67.0	39	84	182
509	Walnut Avenue	Wisteria to Jeffrey Road	67.0	39	85	183
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.1	63	136	293
511	Warner Avenue	Construction North to Harvard Avenue	68.4	49	105	227
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.8	38	82	177
513	Warner Avenue	Santa Ynez to Culver Drive	65.6	32	69	149
514	Warner Avenue	Culver Drive to West Yale Loop	65.1	30	64	137
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	25	53	115
516	West Yale Loop	Eagle Run to Main Street	63.8	24	52	112
517	West Yale Loop	Thunder Run to Yale Avenue	63.6	23	50	109
518	West Yale Loop	Main Street to Timber Run	62.9	21	45	98
519	West Yale Loop	Yale Avenue to Shorebird	62.1	19	40	87
520	West Yale Loop	Warner Avenue to Stonecreek South	62.4	19	42	90
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	19	42	90

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Table 6

522	West Yale Loop	Stonecreek North to Warner Avenue	62.0	18	39	85
523	West Yale Loop	Birdsong to Barranca Parkway	62.2	19	41	88
524	Westwood	Yorktown to Bryan Avenue	63.6	14	30	65
525	Westwood	Bryan Avenue to Leaf	61.6	10	22	48
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	30	65	141
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.4	25	54	116
528	Yale Avenue	Walnut Avenue to Roosevelt	70.9	46	100	215
529	Yale Avenue	Roosevelt to Trabuco Road	67.1	40	86	185
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	67.0	40	85	183
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.8	33	70	152
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.7	33	70	151
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.7	33	70	151
534	Yale Avenue	Trabuco Road to Southwood	65.6	32	69	148
535	Yale Avenue	Southwood to Bryan Avenue	65.6	32	68	147
536	Yale Avenue	Northwood to Irvine Boulevard	65.3	30	65	141
537	Yale Avenue	Bryan Avenue to Monticello	65.2	30	65	140
538	Yale Avenue	Irvine Boulevard to Park Place	64.3	26	56	121
539	Yale Avenue	University Drive to Royce	63.0	17	37	80
540	Yale Court	Arborwood to Portola Parkway	60.3	8	18	39

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

Table 7: Conservative Plan Conditions Noise Contours

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ada	Barranca Parway to Marine Way	70.8	42	91	196
2	Ada	Alton Parkway to Barranca PArkway	69.3	RW	120	259
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	74.1	159	342	736
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	74.8	167	360	775
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.8	83	178	383
6	Alton Parkway	Gateway Boulevard to Enterprise	72.0	114	245	529
7	Alton Parkway	Jeffrey Road to Royal Oak	70.9	72	154	333
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.7	69	149	322
9	Alton Parkway	Culver Drive to West Yale Loop	70.7	69	149	322
10	Alton Parkway	West Yale Loop to Lake Road	70.7	69	149	321
11	Alton Parkway	Technology Drive West to Ada	72.6	120	258	556
12	Alton Parkway	Creek Road to East Yale Loop	70.6	69	148	319
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	70.5	68	146	314
14	Alton Parkway	Lake Road to Creek Road	70.4	66	143	308
15	Alton Parkway	Telemetry to Banting	70.4	67	144	309
16	Alton Parkway	Irvine Boulevard to Commercentre	70.8	95	205	441
17	Alton Parkway	Jenner to Telemetry	70.4	66	142	306
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	71.2	102	219	471
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.7	105	226	488
20	Alton Parkway	Laguna Canyon Road to Jenner	70.3	65	140	302
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	71.2	101	217	468
22	Alton Parkway	Royal Oak to Valley Oak Drive	70.1	63	136	294
23	Alton Parkway	Banting to Pacifica	70.0	63	135	291
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.9	97	209	450
25	Alton Parkway	Ada to Technology Drive East	70.7	93	201	432

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Table 7

26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.7	RW	130	279
27	Alton Parkway	Jeronimo Road to Hughes	69.9	RW	178	383
28	Alton Parkway	Hughes to Morgan	69.8	RW	174	376
29	Alton Parkway	Morgan to Toledo Way	69.1	RW	157	338
30	Alton Parkway	San Marino to Culver Drive	69.2	RW	159	343
31	Alton Parkway	Jamboree Road to Murphy Avenue	69.0	RW	156	336
32	Alton Parkway	Hospital to Laguna Canyon Road	72.0	82	177	381
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.8	80	171	369
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.8	RW	151	326
35	Alton Parkway	Foster to Irvine Boulevard	68.7	RW	148	319
36	Alton Parkway	Fairbanks to Foster	68.5	RW	144	311
37	Alton Parkway	Toledo Way to Bertea	68.4	RW	142	306
38	Alton Parkway	Pacifica to Meridian	71.7	77	167	359
39	Alton Parkway	Bertea to Fairbanks	68.3	RW	140	301
40	Alton Parkway	Meridian to Irvine Center Drive	68.3	RW	138	298
41	Alton Parkway	Paseo Westpark to San Marino	68.3	RW	139	298
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.7	RW	127	274
43	Astor	Lynx to Fairbanks	67.1	RW	52	111
44	Astor	Cadence to Lynx	65.9	RW	43	92
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.7	281	606	1306
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	73.0	134	288	620
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.1	219	472	1017
48	Bake Parkway	Jeronimo Road to Toledo Way	72.1	116	251	540
49	Bake Parkway	Toledo Way to Cromwell	71.7	109	235	507
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	107	230	496
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.6	RW	171	369
52	Bake Parkway	Irvine Center Drive to Research Drive	64.9	RW	RW	178
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.4	RW	RW	141
54	Banting	Alton Parkway to Barranca Parkway	60.3	RW	RW	65
55	Barranca Parkway	Pacifica to Irvine Center Drive	73.3	104	224	482
56	Barranca Parkway	Banting to Pacifica	72.8	96	207	446

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Table 7

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	73.0	99	213	459
58	Barranca Parkway	Technology Drive West to Ada	72.7	94	203	438
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	72.6	93	201	433
60	Barranca Parkway	Culver Drive to West Yale Loop	72.3	89	191	411
61	Barranca Parkway	East Yale Loop to Jeffrey Road	72.2	88	189	407
62	Barranca Parkway	West Yale Loop to Lake Road	72.1	86	185	398
63	Barranca Parkway	Ada to Alton Parkway	72.1	87	187	403
64	Barranca Parkway	Lake Road to Creek Road	71.8	82	177	382
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.7	207	447	962
66	Barranca Parkway	Discovery/Herchel to Banting	71.6	80	173	373
67	Barranca Parkway	Lyon to East Yale Loop	71.6	79	171	369
68	Barranca Parkway	Creek Road to Lyon	71.5	79	169	365
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.8	123	264	569
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	71.1	74	160	344
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.5	117	251	541
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.8	70	152	326
73	Barranca Parkway	Jamboree Road to Construction Circle	71.2	100	216	466
74	Barranca Parkway	Santa Rosa to Culver Drive	71.0	98	211	454
75	Barranca Parkway	FedEx to Discovery/Herchel	70.5	68	146	314
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	70.4	66	143	308
77	Barranca Parkway	Laguna Canyon Road to FedEx	70.4	66	143	308
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.7	175	378	814
79	Barranca Parkway	Construction Circle to Fire Station	70.6	92	199	429
80	Barranca Parkway	Fire Station to Harvard Avenue	70.6	92	199	429
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.6	92	197	425
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	70.2	87	187	403
83	Bay Tree	Trabuco Road to Roosevelt	57.1	RW	RW	RW
84	Beacon	Ridge Valley to Benchmark	59.7	RW	RW	RW
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.5	RW	RW	RW
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.6	RW	127	274
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.3	78	169	364

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Table 7

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.6	RW	130	280
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	RW	123	265
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	68.0	RW	119	257
91	Bosque	Cadence to Great Park Boulevard	65.2	RW	39	83
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.6	RW	RW	65
93	Bosque	Benchmark to Cadence	63.2	RW	RW	61
94	Bosque	Great Park Boulevard to Beacon	56.8	RW	RW	RW
95	Bosque	Beacon to S 5th Street	56.2	RW	RW	RW
96	Bryan Avenue	Jamboree Road to Market Place	69.0	RW	116	250
97	Bryan Avenue	Market Place to El Camino Real	68.9	RW	114	246
98	Bryan Avenue	Rubicon to Culver Drive	68.8	RW	113	242
99	Bryan Avenue	El Camino Real to Rubicon	68.8	RW	112	241
100	Bryan Avenue	Eastwood to Jeffrey Road	67.1	RW	87	187
101	Bryan Avenue	Westwood to Yale Avenue	66.8	RW	82	176
102	Bryan Avenue	Culver Drive to Westwood	66.7	RW	81	174
103	Bryan Avenue	Yale Avenue to Eastwood	66.7	RW	81	174
104	Cadence	Pusan to Chinon	65.6	RW	41	89
105	Cadence	Bosque to Pusan	65.3	RW	39	85
106	Cadence	Ridge Valley (O Street) to Bosque	64.0	RW	RW	70
107	Cadence	Chinon to Merit	62.3	RW	RW	54
108	Cadence	Merit to Astor	59.4	RW	RW	RW
109	California Avenue	University Drive to Academy Way	66.2	RW	76	163
110	California Avenue	Campus Drive to Harvard Avenue	64.2	RW	RW	119
111	California Avenue	Theory to Bison Avenue	63.9	RW	RW	113
112	Campus Drive	Carlson Avenue to University Drive	73.2	82	177	382
113	Campus Drive	University Drive to Bridge Road	71.8	83	178	384
114	Campus Drive	Jamboree Road to Carlson Avenue	71.5	79	170	366
115	Campus Drive	Stanford Court to Berkeley Avenue	71.1	74	159	343
116	Campus Drive	California Avenue to Culver Drive	70.9	72	155	334
117	Campus Drive	Berkeley Avenue to Cornell	70.0	RW	135	290
118	Campus Drive	Martin to Von Karman Avenue	69.1	RW	117	251

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Table 7

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.7	RW	111	239
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.4	RW	105	227
121	Campus Drive	MacArthur Boulevard to Martin	68.2	RW	103	221
122	Campus Drive	Teller Avenue to Jamboree Road	67.5	RW	92	198
123	Carlson Avenue	Michelson Drive to Campus Drive	67.9	RW	98	210
124	Chinon	Irvine Boulevard to Cadence	58.8	RW	RW	RW
125	Creek Road	Alton Parkway to Barranca Parkway	56.3	RW	RW	RW
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	74.0	154	332	715
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.9	152	327	705
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	154	331	713
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.8	151	325	701
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	146	314	677
131	Culver Drive	San Leandro to Main Street	73.3	140	301	649
132	Culver Drive	Harvard Avenue to University Drive	73.4	141	303	652
133	Culver Drive	Trabuco Road to Farwell Avenue	74.2	153	329	709
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	137	296	637
135	Culver Drive	Main Street to Alton Parkway	73.1	134	289	623
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	133	286	615
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.9	130	281	605
138	Culver Drive	Barranca Parkway to Warner Avenue	72.8	130	280	604
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.0	84	182	392
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.5	124	267	574
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	124	267	575
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	122	262	565
143	Culver Drive	Palo Verde to Campus Drive	71.6	80	172	370
144	Culver Drive	University Drive to Sandburg Way	72.2	118	253	546
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.2	130	281	605
146	Culver Drive	Campus Drive to High School	72.1	116	249	536
147	Culver Drive	High School to Harvard Avenue	72.0	114	246	530
148	Culver Drive	Bryan Avenue to Florence	71.8	110	238	512
149	Culver Drive	Portola Parkway to Settlers	71.2	75	162	348

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Table 7

150	Culver Drive	Florence to Irvine Boulevard	71.7	109	234	504
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	91	196	422
152	Culver Drive	Viewpark to Meadowood	70.4	89	191	413
153	Culver Drive	Settlers to Furrow	68.5	RW	107	230
154	Culver Drive	Meadowood to Portola Parkway	69.0	RW	154	332
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	65.5	RW	68	146
156	Discovery Drive	Waterworks Way to Irvine Center Drive	63.6	RW	RW	109
157	East Yale Loop	Alton Parkway to Witherspoon	65.6	RW	68	147
158	East Yale Loop	Osborn Street to Barranca Parkway	65.4	RW	66	143
159	East Yale Loop	Yale Avenue to Springbrook South	65.0	RW	63	135
160	East Yale Loop	Springbrook North to Alton Parkway	63.6	RW	RW	108
161	East Yale Loop	Woodspring to Yale Avenue	62.8	RW	RW	97
162	East Yale Loop	Barranca Parkway to Eastshore	62.4	RW	RW	90
163	Eastwood	Bryan Avenue to Monticello	60.8	RW	RW	43
164	Eastwood	Columbus to Bryan Avenue	58.8	RW	RW	RW
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.1	RW	87	187
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	RW	RW	91
167	Fairbanks	Alton Parkway to Astor	69.8	RW	79	170
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.9	RW	50	108
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.0	RW	RW	116
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	63.5	RW	RW	108
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	62.3	RW	RW	88
172	Gateway Boulevard	Irvine Center Drive to Meridian	59.2	RW	RW	RW
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.6	121	260	561
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.3	66	142	305
175	Great Park Boulevard (EB)	Bosque to Skyhawk	69.0	RW	69	150
176	Great Park Boulevard (WB)	Bosque to Skyhawk	68.4	RW	63	136
177	Harvard Avenue	University Drive to Michelson Drive	72.0	51	110	237
178	Harvard Avenue	Michelson Drive to Coronado	70.4	67	144	311
179	Harvard Avenue	San Marino to Alton Parkway	70.2	64	138	298
180	Harvard Avenue	Coronado to Main Street	70.1	64	137	296

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181	Harvard Avenue	San Carlo to San Marino	70.1	63	136	293
182	Harvard Avenue	Main Street to San Carlo	70.0	RW	134	290
183	Harvard Avenue	Alton Parkway to San Leon	68.8	RW	111	239
184	Harvard Avenue	San Juan to Barranca Parkway	68.8	RW	111	239
185	Harvard Avenue	San Leon to San Juan	68.6	RW	108	233
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.5	RW	92	198
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.4	RW	91	195
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.9	RW	97	209
189	Harvard Avenue	Bridge Road to University Drive	67.9	RW	97	209
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.8	RW	97	208
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.8	RW	90	194
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.4	RW	90	193
193	Harvard Avenue	Culver Drive to California Avenue	67.3	RW	89	191
194	Harvard Avenue	Berkeley to Bridge Road	67.2	RW	87	187
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.7	RW	82	176
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	RW	RW	RW
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.5	RW	RW	RW
198	Hubble	Irvine Center Drive to Bunsen	55.9	RW	RW	RW
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.2	118	255	549
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.2	117	253	545
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.0	127	273	587
202	Irvine Boulevard	Merit to Alton	71.6	108	232	500
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.6	107	230	496
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.1	100	215	464
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	98	211	455
206	Irvine Boulevard	Palo Lado to Yale Avenue	71.2	102	219	471
207	Irvine Boulevard	Culver Drive to Palo Lado	71.2	101	217	468
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	71.1	99	213	459
209	Irvine Boulevard	Old Myford Road to Market Place	71.1	99	214	461
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	71.1	100	216	465
211	Irvine Boulevard	Jamboree Road to Old Myford Road	71.0	98	211	455

Table 7

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	71.0	98	210	453
213	Irvine Boulevard	Jeffrey Road to Groveland	70.9	96	208	448
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.5	91	196	423
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to JeffreyRoad	70.7	94	202	434
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	90	194	418
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.6	92	198	427
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.5	90	194	419
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.4	90	194	417
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	87	188	404
221	Irvine Boulevard	Central Park Avenue to Culver Drive	70.0	84	180	388
222	Irvine Boulevard	Parker to Bake Parkway	69.6	RW	171	368
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	RW	146	315
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.7	121	260	560
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	72.0	114	246	530
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.2	112	241	520
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.9	113	243	523
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.7	108	234	503
229	Irvine Center Drive	Culver Drive to Deerwood	71.6	108	232	500
230	Irvine Center Drive	Deerwood to Yale Avenue	71.6	107	231	497
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	71.6	108	232	500
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.5	106	228	492
233	Irvine Center Drive	Alton Parkway to Spectrum	71.3	103	221	476
234	Irvine Center Drive	Spectrum to Pacifica	71.3	102	219	472
235	Irvine Center Drive	Hearthstone to Culver Drive	71.0	98	211	454
236	Irvine Center Drive	Charter to Barranca Parkway	70.9	97	208	449
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.6	92	197	425
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.7	93	201	433
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.7	93	201	433
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.3	88	191	410
241	Irvine Center Drive	Research to Hubble	69.8	RW	175	376
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	70.1	85	184	396

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Table 7

243	Irvine Center Drive	Bake Parkway to Muller	69.7	RW	173	373
244	Irvine Center Drive	Discovery to Charter	70.2	87	186	402
245	Irvine Center Drive	Hubble to Bake Parkway	69.5	RW	167	361
246	Irvine Center Drive	Muller to Tesla	69.3	RW	162	350
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.4	RW	165	355
248	Irvine Center Drive	Tesla to Scientific Way	68.9	RW	153	329
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.7	RW	148	319
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.8	RW	151	325
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.8	RW	151	326
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.8	RW	151	326
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	71.0	98	211	454
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	168	362	780
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.6	190	409	881
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.9	153	329	709
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	77.0	293	631	1359
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.6	146	314	677
259	Jamboree Road	Main Street to Kelvin Avenue	76.4	266	573	1235
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.4	216	466	1003
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	76.0	253	545	1174
262	Jamboree Road	McGaw Avenue to Alton Parkway	76.0	251	540	1164
263	Jamboree Road	Birch Street to Campus Drive	73.0	134	288	621
264	Jamboree Road	Dupont Drive to Michelson Drive	73.9	146	316	680
265	Jamboree Road	Alton Parkway to Beckman	75.6	236	508	1094
266	Jamboree Road	Fairchild Road to Birch Street	73.5	138	297	640
267	Jamboree Road	Beckman to Barranca Parkway	75.3	224	483	1040
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	218	470	1013
269	Jamboree Road	Campus Drive to Dupont Drive	73.2	130	280	603
270	Jamboree Road	El Camino Real to West Drive	75.0	214	461	993
271	Jamboree Road	West Drive to Bryan Avenue	74.9	214	461	992
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.6	204	438	945
273	Jamboree Road	Koll Center to Fairchild Road	72.8	124	266	574

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Table 7

274	Jamboree Road	MacArthur Boulevard to Koll Center	72.8	123	265	571
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.7	94	202	434
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.2	261	563	1212
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.3	230	495	1066
278	Jamboree Road	Edinger Avenue to Walnut Avenue	78.0	218	469	1010
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.4	104	224	483
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.3	114	245	529
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.9	97	209	450
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.9	97	209	450
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.7	94	203	437
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.9	97	209	450
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.7	93	201	434
286	Jeffrey Road	Quail Creek to Alton Parkway	70.8	95	204	439
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.5	90	194	418
288	Jeffrey Road	Trabuco Road to Hideaway	69.6	RW	171	369
289	Jeffrey Road	Hideaway to Bryan Avenue	69.6	RW	171	369
290	Jeffrey Road	Roosevelt to Grove	70.4	85	184	396
291	Jeffrey Road	Grove to Trabuco Road	70.2	82	177	382
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.5	RW	143	309
293	Jeffrey Road	Encore to Portola Parkway	65.8	RW	94	203
294	Jeffrey Road	Irvine Boulevard to Encore	65.5	RW	90	195
295	Jeronimo Road	Goodyear to Bake Parkway	64.6	RW	RW	127
296	Jeronimo Road	Alton Parkway to Goodyear	64.3	RW	RW	121
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.3	139	299	645
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	69.9	RW	133	287
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	69.5	RW	125	270
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	67.9	RW	79	169
301	Laguna Canyon Road	Irvine Center Drive to Discovery	69.0	RW	115	249
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	67.9	RW	79	169
303	Laguna Canyon Road	Pasteur to Alton Parkway	67.0	RW	85	184
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	67.5	RW	92	198

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Table 7

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.3	RW	77	166
306	Laguna Canyon Road	Barranca Parkway to Waterworks	66.2	RW	75	162
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.4	RW	122	264
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.3	RW	122	262
309	Lake Forest Drive	Tesla to Bake Parkway	66.4	RW	104	225
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	RW	RW	RW
311	Lynx	Irvine Boulevard to Astor	53.2	RW	RW	RW
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.7	282	607	1308
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.7	278	599	1291
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.6	276	594	1279
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	RW	178	382
316	MacArthur Boulevard	Fairchild Road to University Drive	69.8	RW	176	380
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	87	187	403
318	MacArthur Boulevard	Michelson Drive to Douglas	72.2	140	302	650
319	MacArthur Boulevard	Douglas to Campus Drive	72.1	139	299	644
320	MacArthur Boulevard	Skypark to Main Street	69.5	RW	159	343
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.3	RW	140	302
322	MacArthur Boulevard	Birch Street to Jamboree Road	67.1	RW	115	248
323	MacArthur Boulevard	Campus Drive to Birch Street	69.3	RW	194	418
324	Main Street	Gillette Avenue to Von Karman Avenue	70.9	92	197	425
325	Main Street	MacArthur Boulevard to Mercantile	70.3	84	180	388
326	Main Street	Executive Park to MacArthur Boulevard	68.4	RW	142	307
327	Main Street	Von Karman Avenue to Cartwright	68.5	RW	143	308
328	Main Street	McDurmott to Red Hill Avenue	68.1	RW	135	291
329	Main Street	Red Hill Avenue to Executive Circle	68.0	RW	133	287
330	Main Street	Jamboree Road to Union	67.8	RW	130	280
331	Main Street	Culver Drive to West Yale Loop	67.2	RW	87	188
332	Main Street	Siglo to Jamboree Road	67.7	RW	128	275
333	Main Street	Veneto to Harvard Avenue	67.5	RW	124	268
334	Main Street	Paseo Westpark to Culver Drive	66.3	RW	77	165
335	Main Street	Harvard Avenue to San Mateo	66.3	RW	76	164

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Table 7

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.3	71	154	332
337	Marine Way	Alton Parkway to Bake Parkway	69.4	RW	124	266
338	Marine Way	Lynx to Barranca Parkway	69.3	RW	121	261
339	Marine Way	County Access to Treble	68.5	RW	106	229
340	Marine Way	Ridge Valley (O Street) to Skyhawk	68.3	RW	104	224
341	Marine Way	Skyhawk to County Access	67.4	RW	90	194
342	Marine Way	Barranca Parkway to Alton Parkway	66.8	RW	82	177
343	Marine Way	Treble to Lynx	66.5	RW	79	170
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	64.5	RW	RW	124
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	64.3	RW	RW	122
346	McGaw Avenue	Daimler to Red Hill Avenue	62.4	RW	RW	91
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.6	RW	RW	RW
348	Meadowood	Culver Drive to Canyonwood	59.8	RW	RW	RW
349	Meridian	Spectrum to Alton Parkway	55.6	RW	RW	RW
350	Meridian	Alton Parkway to Gateway Boulevard	54.7	RW	RW	RW
351	Merit	Irvine Boulevard to Cadence	58.0	RW	RW	RW
352	Michelson Drive	Riparian to Harvard Avenue	68.3	RW	104	223
353	Michelson Drive	Almond Tree Lane to Yale Avenue	67.2	RW	52	113
354	Michelson Drive	Von Karman Avenue to Obsidian	68.2	RW	101	218
355	Michelson Drive	Parkside to Culver Drive	67.8	RW	96	206
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.9	RW	50	108
357	Michelson Drive	Carlson to Prince	67.3	RW	107	231
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.5	RW	92	197
359	Michelson Drive	Harvard Avenue to Parkside	66.8	RW	83	178
360	Michelson Drive	Bixby to Von Karman Avenue	66.8	RW	83	179
361	Michelson Drive	Jamboree Road to Carlson	69.6	RW	122	263
362	Michelson Drive	Teller to Jamboree Road	69.6	RW	122	262
363	Michelson Drive	Jordan East to University Drive	67.1	RW	41	89
364	Michelson Drive	Culver Drive to Angell	66.3	RW	49	105
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	39	84	181
366	Modjeska (A Street)	South of Irvine Boulevard	61.1	RW	RW	44

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367	Muirlands Boulevard	Bake Parkway to City Limits	67.2	RW	88	189
368	Muirlands Boulevard	Alton Parkway to Sterling	66.3	RW	76	165
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.3	RW	76	165
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.6	RW	80	173
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.1	RW	63	137
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	61.8	RW	RW	82
373	Northwood	Yale Avenue to Savannah	62.5	RW	RW	55
374	Northwood	Goldrush to Yale Avenue	61.5	RW	RW	47
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	69.7	RW	77	165
376	Pacifica	Gateway to Barranca Parkway	65.3	RW	65	140
377	Pacifica	Alton Parkway to Gateway	64.1	RW	RW	117
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	62.7	RW	RW	94
379	Pacifica	Meridian to Alton Parkway	60.9	RW	RW	71
380	Park Place	Christamon South to Yale Avenue	57.0	RW	RW	RW
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.7	81	175	377
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.7	81	175	376
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.4	78	168	361
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	71.1	73	158	341
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.1	63	136	293
386	Portola Parkway	Gatepark to Culver Drive	70.7	94	203	437
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.7	93	201	433
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.6	91	197	424
389	Portola Parkway	Jamboree Road to Bellevue	70.5	91	195	421
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.5	90	194	418
391	Portola Parkway	Yale Avenue to Jeffrey Road	70.2	87	188	405
392	Portola Parkway	Culver Drive to Yale Avenue	69.7	RW	172	371
393	Portola Parkway	Silverado to Portola Springs	68.6	RW	108	233
394	Pusan	Irvine Boulevard to Cadence	56.2	RW	RW	RW
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.5	RW	91	197
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.4	RW	67	143
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.9	RW	RW	RW

Table 7

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.6	107	230	495
399	Red Hill Avenue	I-405 Over Crossing to Main Street	70.2	65	139	300
400	Red Hill Avenue	Alton Parkway to Deere Avenue	70.1	85	183	394
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.9	RW	180	387
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.8	RW	175	377
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.4	74	160	345
404	Red Hill Avenue	Main Street to Skypark East	70.8	67	145	313
405	Research Drive	Hubble to Bake Parkway	69.6	RW	127	273
406	Research Drive	Scientific to Lake Forest Drive	67.4	RW	90	194
407	Research Drive	Bake Parkway to Muller	66.7	RW	81	173
408	Research Drive	Irvine Center Drive to Bunsen	65.7	RW	70	150
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.3	RW	89	192
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.4	RW	77	166
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	RW	73	157
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	RW	RW	RW
413	Ridgeline Drive	Concordia East to University Drive	68.8	RW	71	154
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.5	RW	68	146
415	Rockfield Avenue	Whatney to McLaren	67.7	RW	95	204
416	Rockfield Avenue	Bake Parkway to Whatney	64.3	RW	RW	121
417	Rockfield Avenue	Thomas to Bake Parkway	63.1	RW	RW	101
418	Roosevelt	Jeffrey Road to Vision	66.6	RW	80	172
419	Roosevelt	Yale Avenue to Van Buren	68.3	RW	50	107
420	Roosevelt	Vision to Bay Tree	66.3	RW	77	166
421	Roosevelt	Nimitz to Jeffrey Road	65.9	RW	71	154
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.6	RW	69	148
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	RW	RW	56
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	72.2	117	252	543
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	72.0	113	244	526
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.7	123	264	569
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.7	122	263	566
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.6	204	440	947

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Table 7

429	Sand Canyon Avenue	Trabuco Road to Towngate	71.0	98	211	454
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	70.9	97	209	450
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	73.9	181	389	838
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.8	95	205	441
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.5	172	371	799
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.6	104	224	482
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.5	171	368	793
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.3	89	191	411
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.2	87	187	404
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	69.2	RW	118	255
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	153	331	712
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.8	90	195	420
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.8	79	170	366
442	Scientific Way	Irvine Center Drive to Wald	55.0	RW	RW	RW
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	69.3	RW	73	156
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.7	RW	76	163
445	Skyhawk	Great Park Boulevard to Marine Way	59.6	13	27	58
446	Southwood	Yale Avenue to Colt	60.6	9	19	41
447	Southwood	Challenger to Yale Avenue	60.4	9	18	40
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	62.0	18	39	85
449	Spectrum Center Drive (FortuneDrive)	Quassar Drive (Spectrum) to Gatewayb	62.5	20	42	91
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.7	9	20	44
451	Technology Drive	Barranca Parkway to Alton Parkway	70.8	71	152	327
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	69.6	59	126	272
453	Technology Drive	I-5/SR-133 to Barranca Parkway	69.4	57	123	265
454	Technology Drive	Ada to Alton Parkway	63.7	24	51	110
455	Toledo Way	Bake Parkway to City Limits	65.6	32	69	148
456	Toledo Way	Goodyear to Bake Parkway	64.7	28	60	129
457	Toledo Way	Alton Parkway to Parker	64.5	27	57	124
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.2	41	88	189
459	Trabuco Road	Jeffrey Road to Keystone	67.1	40	86	185

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Table 7

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.8	38	83	178
461	Trabuco Road	Monroe to Yale Avenue	66.8	38	83	178
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.7	38	81	175
463	Trabuco Road	Yale Avenue to Remington	66.4	36	78	167
464	Trabuco Road	Remington to Jeffrey Road	66.1	35	74	160
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.7	51	111	239
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.9	27	58	125
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.8	27	58	124
468	Turtle Rock Drive	Canyon Park to Ridgeline	67.1	24	52	111
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	15	32	70
470	Turtle Rock Drive	Campus Drive to Hillgate	64.1	25	55	118
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.5	20	43	92
472	University Drive	Golden Glow to Yale Avenue	73.0	99	214	461
473	University Drive	Ridgeline to Michelson Drive	72.6	112	240	518
474	University Drive	Culver Drive to Golden Glow	72.9	97	210	452
475	University Drive	Yale Avenue to Ridgeline	72.4	90	194	418
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.7	128	276	594
477	University Drive	Mesa to Campus Drive	74.5	120	259	559
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.4	119	255	550
479	University Drive	California Avenue to Mesa	74.4	119	256	551
480	University Drive	Campus Drive to Harvard Avenue	70.7	94	202	436
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.6	64	137	295
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.2	87	187	402
483	University Drive	San Joaquin to Culver Drive	69.8	82	177	381
484	University Drive	Harvard Avenue to San Joaquin	69.8	82	176	380
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.1	47	101	217
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	69.6	47	101	217
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	67.1	40	87	186
488	Valley Oak Drive	Alton Parkway to Hawkcreek	64.9	29	62	133
489	Von Karman Avenue	Marriott to Morse Avenue	71.0	73	157	338
490	Von Karman Avenue	Michelson Drive to Quartz	70.9	71	153	331

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Table 7

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.8	70	152	327
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	70.4	80	172	369
493	Von Karman Avenue	Main Street to Anchor	70.7	69	149	322
494	Von Karman Avenue	Anchor to McGaw Avenue	70.5	68	146	314
495	Von Karman Avenue	Morse to Main Street	70.3	65	140	303
496	Von Karman Avenue	Martin to Dupont Drive	69.6	59	127	274
497	Von Karman Avenue	Campus Drive to Martin	69.5	58	125	270
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.5	58	125	269
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	70.9	72	156	335
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	69.1	55	118	254
501	Walnut Avenue	The Mall Street to Culver Drive	68.8	52	112	242
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.8	52	112	242
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.5	49	106	229
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.5	50	107	230
505	Walnut Avenue	Culver Drive to Franciscan Street	68.4	49	105	225
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	68.0	62	134	289
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.9	61	130	281
508	Walnut Avenue	Yale Avenue to Kazan Street	67.3	41	89	191
509	Walnut Avenue	Wisteria to Jeffrey Road	67.2	41	88	189
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.2	64	139	299
511	Warner Avenue	Construction North to Harvard Avenue	68.6	51	109	235
512	Warner Avenue	Harvard Avenue to Paseo Westpark	67.1	40	86	185
513	Warner Avenue	Santa Ynez to Culver Drive	66.2	35	75	161
514	Warner Avenue	Culver Drive to West Yale Loop	65.8	33	71	153
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	25	54	116
516	West Yale Loop	Eagle Run to Main Street	63.9	24	52	113
517	West Yale Loop	Thunder Run to Yale Avenue	64.0	25	53	115
518	West Yale Loop	Main Street to Timber Run	62.8	21	45	97
519	West Yale Loop	Yale Avenue to Shorebird	63.2	22	47	102
520	West Yale Loop	Warner Avenue to Stonecreek South	62.7	20	44	94
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	20	42	91

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Table 7

522	West Yale Loop	Stonecreek North to Warner Avenue	62.6	20	43	93
523	West Yale Loop	Birdsong to Barranca Parkway	62.4	19	42	90
524	Westwood	Yorktown to Bryan Avenue	63.5	14	30	64
525	Westwood	Bryan Avenue to Leaf	61.6	10	22	48
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	30	65	141
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.3	25	54	116
528	Yale Avenue	Walnut Avenue to Roosevelt	71.1	47	102	219
529	Yale Avenue	Roosevelt to Trabuco Road	67.1	40	86	185
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.9	39	83	179
531	Yale Avenue	West Yale Loop to Irvine Center Drive	66.5	36	78	169
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.7	32	70	150
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.7	32	70	150
534	Yale Avenue	Trabuco Road to Southwood	65.6	32	69	148
535	Yale Avenue	Southwood to Bryan Avenue	65.4	31	66	143
536	Yale Avenue	Northwood to Irvine Boulevard	65.1	30	64	137
537	Yale Avenue	Bryan Avenue to Monticello	65.0	29	62	134
538	Yale Avenue	Irvine Boulevard to Park Place	64.2	26	56	120
539	Yale Avenue	University Drive to Royce	63.6	19	40	87
540	Yale Court	Arborwood to Portola Parkway	60.4	9	18	40

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

Table 8: Conservative Cumualtive Plan Conditions Noise Contours

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ada	Barranca Parway to Marine Way	70.8	42	91	196
2	Ada	Alton Parkway to Barranca PArkway	69.3	RW	120	259
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	74.1	159	342	737
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	74.8	167	360	776
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.8	83	179	385
6	Alton Parkway	Gateway Boulevard to Enterprise	72.0	114	246	529
7	Alton Parkway	Jeffrey Road to Royal Oak	70.9	72	155	335
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.7	69	149	322
9	Alton Parkway	Culver Drive to West Yale Loop	70.7	69	150	322
10	Alton Parkway	West Yale Loop to Lake Road	70.7	70	150	323
11	Alton Parkway	Technology Drive West to Ada	72.6	120	259	558
12	Alton Parkway	Creek Road to East Yale Loop	70.7	69	149	321
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	70.6	69	148	319
14	Alton Parkway	Lake Road to Creek Road	70.4	67	144	310
15	Alton Parkway	Telemetry to Banting	70.5	67	144	311
16	Alton Parkway	Irvine Boulevard to Commercentre	70.8	96	206	444
17	Alton Parkway	Jenner to Telemetry	70.4	66	143	308
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	71.3	102	220	475
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.7	106	227	490
20	Alton Parkway	Laguna Canyon Road to Jenner	70.3	65	141	303
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	71.2	101	219	471
22	Alton Parkway	Royal Oak to Valley Oak Drive	70.1	64	137	295
23	Alton Parkway	Banting to Pacifica	70.1	63	136	293
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	71.0	97	210	452
25	Alton Parkway	Ada to Technology Drive East	70.7	94	202	435

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Table 8

26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.8	RW	130	281
27	Alton Parkway	Jeronimo Road to Hughes	69.9	RW	178	384
28	Alton Parkway	Hughes to Morgan	69.8	RW	174	376
29	Alton Parkway	Morgan to Toledo Way	69.1	RW	157	339
30	Alton Parkway	San Marino to Culver Drive	69.2	RW	160	345
31	Alton Parkway	Jamboree Road to Murphy Avenue	69.2	RW	161	347
32	Alton Parkway	Hospital to Laguna Canyon Road	72.1	83	178	384
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.9	80	172	371
34	Alton Parkway	Murphy Avenue to Harvard Avenue	69.0	RW	156	335
35	Alton Parkway	Foster to Irvine Boulevard	68.7	RW	149	321
36	Alton Parkway	Fairbanks to Foster	68.6	RW	145	313
37	Alton Parkway	Toledo Way to Bertea	68.4	RW	142	306
38	Alton Parkway	Pacifica to Meridian	71.7	78	169	364
39	Alton Parkway	Bertea to Fairbanks	68.3	RW	140	301
40	Alton Parkway	Meridian to Irvine Center Drive	68.3	RW	139	300
41	Alton Parkway	Paseo Westpark to San Marino	68.3	RW	139	300
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.9	RW	130	280
43	Astor	Lynx to Fairbanks	67.1	RW	52	112
44	Astor	Cadence to Lynx	65.9	RW	43	93
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.7	282	607	1307
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	73.1	134	289	624
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.1	220	474	1020
48	Bake Parkway	Jeronimo Road to Toledo Way	72.2	117	252	543
49	Bake Parkway	Toledo Way to Cromwell	71.7	110	236	509
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	107	231	498
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.7	RW	173	372
52	Bake Parkway	Irvine Center Drive to Research Drive	65.1	RW	85	184
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.7	RW	RW	149
54	Banting	Alton Parkway to Barranca Parkway	60.3	RW	RW	65
55	Barranca Parkway	Pacifica to Irvine Center Drive	73.3	104	224	483
56	Barranca Parkway	Banting to Pacifica	72.8	97	208	448

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Table 8

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	73.0	99	213	460
58	Barranca Parkway	Technology Drive West to Ada	72.7	95	204	440
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	72.6	94	202	434
60	Barranca Parkway	Culver Drive to West Yale Loop	72.3	89	191	412
61	Barranca Parkway	East Yale Loop to Jeffrey Road	72.3	88	190	410
62	Barranca Parkway	West Yale Loop to Lake Road	72.1	86	185	399
63	Barranca Parkway	Ada to Alton Parkway	72.2	87	188	404
64	Barranca Parkway	Lake Road to Creek Road	71.8	83	178	383
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.8	209	451	972
66	Barranca Parkway	Discovery/Herchel to Banting	71.7	81	174	375
67	Barranca Parkway	Lyon to East Yale Loop	71.6	80	172	371
68	Barranca Parkway	Creek Road to Lyon	71.5	79	170	367
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.8	123	264	569
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	71.1	75	161	346
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.5	118	254	546
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.8	71	153	329
73	Barranca Parkway	Jamboree Road to Construction Circle	71.2	101	217	467
74	Barranca Parkway	Santa Rosa to Culver Drive	71.1	99	213	459
75	Barranca Parkway	FedEx to Discovery/Herchel	70.6	68	147	316
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	70.5	67	145	313
77	Barranca Parkway	Laguna Canyon Road to FedEx	70.4	67	144	310
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.6	175	377	812
79	Barranca Parkway	Construction Circle to Fire Station	70.6	93	200	430
80	Barranca Parkway	Fire Station to Harvard Avenue	70.6	93	200	430
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.6	93	200	430
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	70.3	88	191	411
83	Bay Tree	Trabuco Road to Roosevelt	57.1	RW	RW	RW
84	Beacon	Ridge Valley to Benchmark	59.7	RW	RW	RW
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.5	RW	RW	RW
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.7	RW	128	276
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.3	79	169	364

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Table 8

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.6	RW	130	281
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	RW	123	266
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	68.1	RW	120	258
91	Bosque	Cadence to Great Park Boulevard	65.2	RW	39	84
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.6	RW	RW	65
93	Bosque	Benchmark to Cadence	63.2	RW	RW	61
94	Bosque	Great Park Boulevard to Beacon	56.8	RW	RW	RW
95	Bosque	Beacon to S 5th Street	56.2	RW	RW	RW
96	Bryan Avenue	Jamboree Road to Market Place	69.1	RW	117	252
97	Bryan Avenue	Market Place to El Camino Real	68.8	RW	113	243
98	Bryan Avenue	Rubicon to Culver Drive	68.9	RW	114	245
99	Bryan Avenue	El Camino Real to Rubicon	68.9	RW	113	243
100	Bryan Avenue	Eastwood to Jeffrey Road	67.2	RW	88	189
101	Bryan Avenue	Westwood to Yale Avenue	66.8	RW	82	178
102	Bryan Avenue	Culver Drive to Westwood	66.7	RW	81	175
103	Bryan Avenue	Yale Avenue to Eastwood	66.8	RW	82	176
104	Cadence	Pusan to Chinon	65.6	RW	41	89
105	Cadence	Bosque to Pusan	65.3	RW	39	85
106	Cadence	Ridge Valley (O Street) to Bosque	64.0	RW	RW	69
107	Cadence	Chinon to Merit	62.4	RW	RW	54
108	Cadence	Merit to Astor	59.4	RW	RW	RW
109	California Avenue	University Drive to Academy Way	67.3	RW	89	191
110	California Avenue	Campus Drive to Harvard Avenue	64.2	RW	RW	119
111	California Avenue	Theory to Bison Avenue	64.0	RW	RW	115
112	Campus Drive	Carlson Avenue to University Drive	73.3	83	180	387
113	Campus Drive	University Drive to Bridge Road	71.8	82	177	381
114	Campus Drive	Jamboree Road to Carlson Avenue	71.6	80	172	371
115	Campus Drive	Stanford Court to Berkeley Avenue	71.1	74	159	342
116	Campus Drive	California Avenue to Culver Drive	70.9	72	155	334
117	Campus Drive	Berkeley Avenue to Cornell	69.9	RW	133	287
118	Campus Drive	Martin to Von Karman Avenue	69.2	RW	120	258

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Table 8

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.7	RW	111	239
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.5	RW	107	231
121	Campus Drive	MacArthur Boulevard to Martin	68.3	RW	104	224
122	Campus Drive	Teller Avenue to Jamboree Road	67.6	RW	93	201
123	Carlson Avenue	Michelson Drive to Campus Drive	67.9	RW	98	211
124	Chinon	Irvine Boulevard to Cadence	58.8	RW	RW	RW
125	Creek Road	Alton Parkway to Barranca Parkway	56.3	RW	RW	RW
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.9	154	331	713
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.8	151	326	703
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	154	331	714
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.8	151	325	701
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	146	315	679
131	Culver Drive	San Leandro to Main Street	73.3	140	301	649
132	Culver Drive	Harvard Avenue to University Drive	73.4	140	303	652
133	Culver Drive	Trabuco Road to Farwell Avenue	74.2	153	329	708
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	137	295	637
135	Culver Drive	Main Street to Alton Parkway	73.1	135	290	625
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	133	287	618
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.8	130	280	604
138	Culver Drive	Barranca Parkway to Warner Avenue	72.9	131	282	607
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.0	84	182	392
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.5	124	267	574
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	124	267	575
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	122	263	567
143	Culver Drive	Palo Verde to Campus Drive	71.6	80	172	370
144	Culver Drive	University Drive to Sandburg Way	72.2	118	253	545
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.2	131	281	606
146	Culver Drive	Campus Drive to High School	72.1	116	250	539
147	Culver Drive	High School to Harvard Avenue	72.0	114	246	530
148	Culver Drive	Bryan Avenue to Florence	71.8	111	238	513
149	Culver Drive	Portola Parkway to Settlers	71.2	76	163	350

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Table 8

150	Culver Drive	Florence to Irvine Boulevard	71.7	109	235	505
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	91	196	422
152	Culver Drive	Viewpark to Meadowood	70.4	89	191	412
153	Culver Drive	Settlers to Furrow	68.6	RW	108	233
154	Culver Drive	Meadowood to Portola Parkway	69.0	RW	154	333
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	65.5	RW	68	146
156	Discovery Drive	Waterworks Way to Irvine Center Drive	63.6	RW	RW	109
157	East Yale Loop	Alton Parkway to Witherspoon	65.6	RW	69	148
158	East Yale Loop	Osborn Street to Barranca Parkway	65.4	RW	66	143
159	East Yale Loop	Yale Avenue to Springbrook South	65.0	RW	63	136
160	East Yale Loop	Springbrook North to Alton Parkway	63.6	RW	RW	109
161	East Yale Loop	Woodspring to Yale Avenue	62.9	RW	RW	97
162	East Yale Loop	Barranca Parkway to Eastshore	62.5	RW	RW	92
163	Eastwood	Bryan Avenue to Monticello	60.9	RW	RW	43
164	Eastwood	Columbus to Bryan Avenue	58.9	RW	RW	RW
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.2	RW	87	188
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	RW	RW	90
167	Fairbanks	Alton Parkway to Astor	69.9	RW	79	171
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.9	RW	50	108
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.0	RW	RW	116
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	63.5	RW	RW	107
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	62.2	RW	RW	88
172	Gateway Boulevard	Irvine Center Drive to Meridian	59.2	RW	RW	RW
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.6	121	261	562
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.4	66	143	307
175	Great Park Boulevard (EB)	Bosque to Skyhawk	69.1	RW	71	152
176	Great Park Boulevard (WB)	Bosque to Skyhawk	68.4	RW	63	136
177	Harvard Avenue	University Drive to Michelson Drive	72.1	51	111	239
178	Harvard Avenue	Michelson Drive to Coronado	70.5	67	145	313
179	Harvard Avenue	San Marino to Alton Parkway	70.3	65	140	302
180	Harvard Avenue	Coronado to Main Street	70.2	64	138	298

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Table 8

181	Harvard Avenue	San Carlo to San Marino	70.2	64	138	297
182	Harvard Avenue	Main Street to San Carlo	70.1	63	136	293
183	Harvard Avenue	Alton Parkway to San Leon	68.6	RW	109	234
184	Harvard Avenue	San Juan to Barranca Parkway	68.7	RW	110	236
185	Harvard Avenue	San Leon to San Juan	68.6	RW	108	233
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.5	RW	92	197
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.4	RW	91	195
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.9	RW	97	210
189	Harvard Avenue	Bridge Road to University Drive	67.8	RW	97	208
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.8	RW	96	207
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.9	RW	90	195
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.3	RW	89	193
193	Harvard Avenue	Culver Drive to California Avenue	67.3	RW	88	191
194	Harvard Avenue	Berkeley to Bridge Road	67.2	RW	87	188
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.8	RW	82	176
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	RW	RW	RW
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.5	RW	RW	RW
198	Hubble	Irvine Center Drive to Bunsen	56.1	RW	RW	RW
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.3	119	256	552
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.2	118	254	547
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.0	128	275	592
202	Irvine Boulevard	Merit to Alton	71.6	108	232	500
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.7	109	236	507
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.2	100	216	466
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	98	211	455
206	Irvine Boulevard	Palo Lado to Yale Avenue	71.3	103	223	480
207	Irvine Boulevard	Culver Drive to Palo Lado	71.3	103	221	476
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	71.1	100	215	464
209	Irvine Boulevard	Old Myford Road to Market Place	71.2	101	217	467
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	71.2	101	217	468
211	Irvine Boulevard	Jamboree Road to Old Myford Road	71.1	99	214	461

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Table 8

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	71.1	99	213	459
213	Irvine Boulevard	Jeffrey Road to Groveland	71.1	100	215	464
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.6	92	198	426
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to JeffreyRoad	70.8	94	204	438
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	90	194	418
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.7	93	200	431
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.6	92	197	425
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.5	91	197	423
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	87	188	404
221	Irvine Boulevard	Central Park Avenue to Culver Drive	70.0	84	182	392
222	Irvine Boulevard	Parker to Bake Parkway	69.7	RW	173	372
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	RW	146	315
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.8	122	263	567
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	72.0	115	247	532
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.3	114	246	529
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.9	113	244	525
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.7	109	236	507
229	Irvine Center Drive	Culver Drive to Deerwood	71.6	108	233	502
230	Irvine Center Drive	Deerwood to Yale Avenue	71.6	108	232	499
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	71.7	109	234	504
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.5	106	229	493
233	Irvine Center Drive	Alton Parkway to Spectrum	71.4	103	223	480
234	Irvine Center Drive	Spectrum to Pacifica	71.3	103	221	476
235	Irvine Center Drive	Hearthstone to Culver Drive	71.0	98	211	455
236	Irvine Center Drive	Charter to Barranca Parkway	71.0	97	210	452
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.6	92	198	426
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.7	94	203	437
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.7	94	202	435
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.3	89	191	411
241	Irvine Center Drive	Research to Hubble	70.0	84	180	389
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	70.2	86	185	399

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Table 8

243	Irvine Center Drive	Bake Parkway to Muller	69.8	RW	176	380
244	Irvine Center Drive	Discovery to Charter	70.2	87	188	405
245	Irvine Center Drive	Hubble to Bake Parkway	69.6	RW	170	365
246	Irvine Center Drive	Muller to Tesla	69.4	RW	165	355
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.4	RW	165	356
248	Irvine Center Drive	Tesla to Scientific Way	69.1	RW	156	337
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.9	RW	152	328
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.9	RW	153	330
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.9	RW	153	329
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.9	RW	152	327
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	71.1	99	213	458
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	168	362	780
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.7	191	411	885
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.9	153	329	709
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	77.0	293	632	1362
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.6	146	314	676
259	Jamboree Road	Main Street to Kelvin Avenue	76.4	268	577	1244
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.4	217	467	1007
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	76.1	255	549	1183
262	Jamboree Road	McGaw Avenue to Alton Parkway	76.0	253	545	1174
263	Jamboree Road	Birch Street to Campus Drive	73.1	135	291	626
264	Jamboree Road	Dupont Drive to Michelson Drive	74.0	148	318	685
265	Jamboree Road	Alton Parkway to Beckman	75.7	238	513	1106
266	Jamboree Road	Fairchild Road to Birch Street	73.6	139	300	646
267	Jamboree Road	Beckman to Barranca Parkway	75.3	226	487	1049
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	218	470	1013
269	Jamboree Road	Campus Drive to Dupont Drive	73.2	131	283	610
270	Jamboree Road	El Camino Real to West Drive	74.9	213	458	988
271	Jamboree Road	West Drive to Bryan Avenue	74.9	213	460	991
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.6	202	436	939
273	Jamboree Road	Koll Center to Fairchild Road	72.9	125	269	580

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Table 8

274	Jamboree Road	MacArthur Boulevard to Koll Center	72.8	124	267	575
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.7	93	201	433
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.2	261	563	1213
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.4	231	497	1072
278	Jamboree Road	Edinger Avenue to Walnut Avenue	78.0	218	470	1012
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.4	104	225	485
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.3	115	247	532
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	71.0	97	210	452
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.9	97	209	451
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.8	94	203	438
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	71.0	97	210	452
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.7	93	201	434
286	Jeffrey Road	Quail Creek to Alton Parkway	70.8	95	205	442
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.5	90	194	419
288	Jeffrey Road	Trabuco Road to Hideaway	69.7	RW	173	372
289	Jeffrey Road	Hideaway to Bryan Avenue	69.7	RW	173	372
290	Jeffrey Road	Roosevelt to Grove	70.4	85	184	396
291	Jeffrey Road	Grove to Trabuco Road	70.2	82	177	382
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.6	RW	145	312
293	Jeffrey Road	Encore to Portola Parkway	65.5	RW	91	196
294	Jeffrey Road	Irvine Boulevard to Encore	65.4	RW	89	191
295	Jeronimo Road	Goodyear to Bake Parkway	64.6	RW	RW	127
296	Jeronimo Road	Alton Parkway to Goodyear	64.3	RW	RW	121
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.4	141	304	655
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	70.0	RW	134	289
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	69.5	RW	125	270
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	68.0	RW	79	171
301	Laguna Canyon Road	Irvine Center Drive to Discovery	69.0	RW	115	248
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	68.0	RW	79	171
303	Laguna Canyon Road	Pasteur to Alton Parkway	67.1	RW	86	185
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	67.5	RW	92	197

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Table 8

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.4	RW	77	166
306	Laguna Canyon Road	Barranca Parkway to Waterworks	66.3	RW	76	164
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.6	RW	126	271
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.5	RW	125	269
309	Lake Forest Drive	Tesla to Bake Parkway	66.6	RW	108	233
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	RW	RW	RW
311	Lynx	Irvine Boulevard to Astor	53.2	RW	RW	RW
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.8	284	612	1318
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.7	280	603	1299
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.6	277	597	1287
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	RW	178	382
316	MacArthur Boulevard	Fairchild Road to University Drive	69.8	RW	176	379
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	87	187	403
318	MacArthur Boulevard	Michelson Drive to Douglas	72.3	143	308	664
319	MacArthur Boulevard	Douglas to Campus Drive	72.3	141	305	656
320	MacArthur Boulevard	Skypark to Main Street	69.5	RW	160	346
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.4	RW	141	304
322	MacArthur Boulevard	Birch Street to Jamboree Road	67.2	RW	118	254
323	MacArthur Boulevard	Campus Drive to Birch Street	69.5	RW	200	430
324	Main Street	Gillette Avenue to Von Karman Avenue	70.9	92	199	428
325	Main Street	MacArthur Boulevard to Mercantile	70.3	84	181	391
326	Main Street	Executive Park to MacArthur Boulevard	68.5	RW	143	308
327	Main Street	Von Karman Avenue to Cartwright	68.5	RW	143	308
328	Main Street	McDurmott to Red Hill Avenue	68.1	RW	135	292
329	Main Street	Red Hill Avenue to Executive Circle	68.0	RW	134	288
330	Main Street	Jamboree Road to Union	67.9	RW	131	282
331	Main Street	Culver Drive to West Yale Loop	67.2	RW	87	188
332	Main Street	Siglo to Jamboree Road	67.7	RW	128	275
333	Main Street	Veneto to Harvard Avenue	67.6	RW	125	269
334	Main Street	Paseo Westpark to Culver Drive	66.4	RW	77	166
335	Main Street	Harvard Avenue to San Mateo	66.3	RW	76	165

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Table 8

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.3	72	154	332
337	Marine Way	Alton Parkway to Bake Parkway	69.5	RW	124	267
338	Marine Way	Lynx to Barranca Parkway	69.3	RW	122	262
339	Marine Way	County Access to Treble	68.5	RW	107	230
340	Marine Way	Ridge Valley (O Street) to Skyhawk	68.3	RW	104	224
341	Marine Way	Skyhawk to County Access	67.4	RW	90	194
342	Marine Way	Barranca Parkway to Alton Parkway	66.8	RW	82	177
343	Marine Way	Treble to Lynx	66.6	RW	79	171
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	64.5	RW	RW	125
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	64.4	RW	RW	123
346	McGaw Avenue	Daimler to Red Hill Avenue	62.4	RW	RW	91
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.5	RW	RW	RW
348	Meadowood	Culver Drive to Canyonwood	59.6	RW	RW	RW
349	Meridian	Spectrum to Alton Parkway	55.7	RW	RW	RW
350	Meridian	Alton Parkway to Gateway Boulevard	54.8	RW	RW	RW
351	Merit	Irvine Boulevard to Cadence	58.0	RW	RW	RW
352	Michelson Drive	Riparian to Harvard Avenue	68.3	RW	104	224
353	Michelson Drive	Almond Tree Lane to Yale Avenue	67.2	RW	53	113
354	Michelson Drive	Von Karman Avenue to Obsidian	68.1	RW	101	218
355	Michelson Drive	Parkside to Culver Drive	67.8	RW	96	206
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.9	RW	50	108
357	Michelson Drive	Carlson to Prince	67.3	RW	107	231
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.5	RW	92	198
359	Michelson Drive	Harvard Avenue to Parkside	66.8	RW	83	178
360	Michelson Drive	Bixby to Von Karman Avenue	66.9	RW	83	179
361	Michelson Drive	Jamboree Road to Carlson	69.6	RW	122	262
362	Michelson Drive	Teller to Jamboree Road	69.6	RW	122	263
363	Michelson Drive	Jordan East to University Drive	67.1	RW	41	89
364	Michelson Drive	Culver Drive to Angell	66.3	RW	49	105
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	39	84	182
366	Modjeska (A Street)	South of Irvine Boulevard	61.0	RW	RW	44

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Table 8

367	Muirlands Boulevard	Bake Parkway to City Limits	67.3	RW	89	192
368	Muirlands Boulevard	Alton Parkway to Sterling	66.2	RW	75	162
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.3	RW	76	165
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.7	RW	81	174
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.1	RW	64	137
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	61.7	RW	RW	81
373	Northwood	Yale Avenue to Savannah	62.5	RW	RW	55
374	Northwood	Goldrush to Yale Avenue	61.6	RW	RW	48
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	69.7	RW	77	165
376	Pacifica	Gateway to Barranca Parkway	65.3	RW	66	142
377	Pacifica	Alton Parkway to Gateway	64.2	RW	RW	118
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	62.7	RW	RW	95
379	Pacifica	Meridian to Alton Parkway	60.9	RW	RW	71
380	Park Place	Christamon South to Yale Avenue	57.0	RW	RW	RW
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.8	83	179	385
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.8	83	178	384
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.5	79	170	366
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	71.1	74	160	346
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.1	64	137	296
386	Portola Parkway	Gatepark to Culver Drive	70.9	96	207	445
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.8	95	205	441
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.7	93	201	432
389	Portola Parkway	Jamboree Road to Bellevue	70.6	93	199	430
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.6	92	198	427
391	Portola Parkway	Yale Avenue to Jeffrey Road	70.4	89	193	415
392	Portola Parkway	Culver Drive to Yale Avenue	69.8	RW	175	377
393	Portola Parkway	Silverado to Portola Springs	68.7	RW	110	236
394	Pusan	Irvine Boulevard to Cadence	56.1	RW	RW	RW
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.5	RW	92	198
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.4	RW	67	144
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	55.0	RW	RW	RW

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Table 8

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.7	108	233	503
399	Red Hill Avenue	I-405 Over Crossing to Main Street	70.3	65	141	303
400	Red Hill Avenue	Alton Parkway to Deere Avenue	70.1	86	185	398
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	70.1	85	183	394
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.9	RW	177	382
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.5	76	163	352
404	Red Hill Avenue	Main Street to Skypark East	70.9	69	148	320
405	Research Drive	Hubble to Bake Parkway	69.7	RW	128	276
406	Research Drive	Scientific to Lake Forest Drive	67.8	RW	95	206
407	Research Drive	Bake Parkway to Muller	66.8	RW	82	177
408	Research Drive	Irvine Center Drive to Bunsen	65.8	RW	70	151
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.3	RW	89	191
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.4	RW	78	167
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	RW	73	157
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	RW	RW	RW
413	Ridgeline Drive	Concordia East to University Drive	68.8	RW	71	154
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.5	RW	68	147
415	Rockfield Avenue	Whatney to McLaren	67.8	RW	96	206
416	Rockfield Avenue	Bake Parkway to Whatney	64.4	RW	RW	122
417	Rockfield Avenue	Thomas to Bake Parkway	63.2	RW	RW	101
418	Roosevelt	Jeffrey Road to Vision	66.7	RW	81	175
419	Roosevelt	Yale Avenue to Van Buren	68.3	RW	50	108
420	Roosevelt	Vision to Bay Tree	66.5	RW	79	170
421	Roosevelt	Nimitz to Jeffrey Road	65.9	RW	72	155
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.7	RW	70	150
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	RW	RW	56
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	72.2	118	254	547
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	72.0	115	247	532
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.7	123	265	571
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.8	123	265	571
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.8	208	448	965

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Table 8

429	Sand Canyon Avenue	Trabuco Road to Towngate	71.2	101	217	468
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	71.0	98	211	454
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	74.0	184	396	854
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.9	96	207	445
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.6	173	372	801
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.6	104	224	483
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.6	174	375	808
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.6	92	199	429
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.3	88	189	408
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	70.3	66	141	304
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	153	331	712
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.9	91	197	424
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.8	79	170	366
442	Scientific Way	Irvine Center Drive to Wald	55.0	RW	RW	RW
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	69.4	RW	73	158
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.8	RW	77	165
445	Skyhawk	Great Park Boulevard to Marine Way	59.5	13	27	58
446	Southwood	Yale Avenue to Colt	60.6	9	19	41
447	Southwood	Challenger to Yale Avenue	60.4	9	18	40
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.9	18	39	84
449	Spectrum Center Drive (FortuneDrive)	Quassar Drive (Spectrum) to Gatewayb	62.5	20	42	92
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.8	10	21	44
451	Technology Drive	Barranca Parkway to Alton Parkway	70.8	71	152	327
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	69.6	59	127	273
453	Technology Drive	I-5/SR-133 to Barranca Parkway	69.4	57	123	266
454	Technology Drive	Ada to Alton Parkway	63.7	24	51	111
455	Toledo Way	Bake Parkway to City Limits	65.6	32	69	149
456	Toledo Way	Goodyear to Bake Parkway	64.7	28	60	129
457	Toledo Way	Alton Parkway to Parker	64.5	27	58	124
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.3	41	88	191
459	Trabuco Road	Jeffrey Road to Keystone	67.1	40	87	186

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Table 8

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.9	39	83	179
461	Trabuco Road	Monroe to Yale Avenue	66.9	39	84	181
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.8	38	82	178
463	Trabuco Road	Yale Avenue to Remington	66.5	37	79	170
464	Trabuco Road	Remington to Jeffrey Road	66.2	35	76	163
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.7	52	111	239
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.9	27	58	126
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.8	27	58	125
468	Turtle Rock Drive	Canyon Park to Ridgeline	67.1	24	52	111
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	15	32	70
470	Turtle Rock Drive	Campus Drive to Hillgate	64.2	26	55	118
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.4	20	43	92
472	University Drive	Golden Glow to Yale Avenue	73.1	100	215	464
473	University Drive	Ridgeline to Michelson Drive	72.6	113	243	522
474	University Drive	Culver Drive to Golden Glow	72.9	98	211	455
475	University Drive	Yale Avenue to Ridgeline	72.4	91	196	422
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.8	129	278	599
477	University Drive	Mesa to Campus Drive	74.6	122	263	567
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.7	123	266	572
479	University Drive	California Avenue to Mesa	74.5	120	259	558
480	University Drive	Campus Drive to Harvard Avenue	70.8	95	205	443
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.8	65	141	304
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.4	89	193	415
483	University Drive	San Joaquin to Culver Drive	69.9	83	178	384
484	University Drive	Harvard Avenue to San Joaquin	69.9	82	178	383
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.1	47	100	216
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	69.5	47	100	216
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	67.2	41	88	189
488	Valley Oak Drive	Alton Parkway to Hawkcreek	64.9	28	61	132
489	Von Karman Avenue	Marriott to Morse Avenue	71.0	73	158	340
490	Von Karman Avenue	Michelson Drive to Quartz	70.9	72	154	332

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Table 8

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.8	71	152	328
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	70.4	80	173	373
493	Von Karman Avenue	Main Street to Anchor	70.7	70	150	324
494	Von Karman Avenue	Anchor to McGaw Avenue	70.6	68	147	316
495	Von Karman Avenue	Morse to Main Street	70.3	66	141	304
496	Von Karman Avenue	Martin to Dupont Drive	69.7	59	128	276
497	Von Karman Avenue	Campus Drive to Martin	69.6	58	126	271
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.6	58	126	271
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	71.0	72	156	336
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	69.2	55	120	258
501	Walnut Avenue	The Mall Street to Culver Drive	68.9	52	113	244
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.8	52	113	243
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.6	50	108	233
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.5	49	107	230
505	Walnut Avenue	Culver Drive to Franciscan Street	68.4	49	106	228
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	68.1	63	135	291
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.9	61	131	283
508	Walnut Avenue	Yale Avenue to Kazan Street	67.3	42	90	193
509	Walnut Avenue	Wisteria to Jeffrey Road	67.2	41	88	190
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.1	64	138	297
511	Warner Avenue	Construction North to Harvard Avenue	68.6	50	108	233
512	Warner Avenue	Harvard Avenue to Paseo Westpark	67.1	40	86	185
513	Warner Avenue	Santa Ynez to Culver Drive	66.2	35	75	162
514	Warner Avenue	Culver Drive to West Yale Loop	65.9	33	72	155
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	25	53	115
516	West Yale Loop	Eagle Run to Main Street	63.8	24	52	112
517	West Yale Loop	Thunder Run to Yale Avenue	64.0	25	54	116
518	West Yale Loop	Main Street to Timber Run	62.9	21	45	97
519	West Yale Loop	Yale Avenue to Shorebird	63.3	22	48	104
520	West Yale Loop	Warner Avenue to Stonecreek South	62.7	20	44	95
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	20	42	91

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Table 8

522	West Yale Loop	Stonecreek North to Warner Avenue	62.6	20	43	94
523	West Yale Loop	Birdsong to Barranca Parkway	62.5	20	42	91
524	Westwood	Yorktown to Bryan Avenue	63.5	14	30	64
525	Westwood	Bryan Avenue to Leaf	61.6	10	22	48
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	30	65	141
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.3	25	54	116
528	Yale Avenue	Walnut Avenue to Roosevelt	71.2	48	103	222
529	Yale Avenue	Roosevelt to Trabuco Road	67.1	40	86	185
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.8	38	82	178
531	Yale Avenue	West Yale Loop to Irvine Center Drive	66.6	37	79	171
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.8	33	70	151
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.8	33	70	151
534	Yale Avenue	Trabuco Road to Southwood	65.7	32	69	149
535	Yale Avenue	Southwood to Bryan Avenue	65.4	31	67	144
536	Yale Avenue	Northwood to Irvine Boulevard	65.2	30	64	138
537	Yale Avenue	Bryan Avenue to Monticello	65.0	29	63	135
538	Yale Avenue	Irvine Boulevard to Park Place	64.2	26	56	120
539	Yale Avenue	University Drive to Royce	63.5	18	40	86
540	Yale Court	Arborwood to Portola Parkway	60.4	9	18	40

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

Table 9: Preferred Plan Conditions Noise Contours

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ada	Barranca Parway to Marine Way	70.8	42	91	196
2	Ada	Alton Parkway to Barranca PArkway	69.2	RW	120	258
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	73.9	152	328	706
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	74.5	160	345	742
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.8	82	176	380
6	Alton Parkway	Gateway Boulevard to Enterprise	71.7	109	235	507
7	Alton Parkway	Jeffrey Road to Royal Oak	70.7	70	151	324
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.6	69	148	320
9	Alton Parkway	Culver Drive to West Yale Loop	70.6	68	147	318
10	Alton Parkway	West Yale Loop to Lake Road	70.6	68	147	317
11	Alton Parkway	Technology Drive West to Ada	72.4	116	250	539
12	Alton Parkway	Creek Road to East Yale Loop	70.5	68	146	314
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	70.4	66	143	308
14	Alton Parkway	Lake Road to Creek Road	70.3	65	141	303
15	Alton Parkway	Telemetry to Banting	70.3	66	142	305
16	Alton Parkway	Irvine Boulevard to Commercentre	70.8	95	205	443
17	Alton Parkway	Jenner to Telemetry	70.3	65	140	302
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	71.0	97	210	452
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.7	105	227	489
20	Alton Parkway	Laguna Canyon Road to Jenner	70.2	64	138	298
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	70.8	95	205	441
22	Alton Parkway	Royal Oak to Valley Oak Drive	70.0	RW	134	288
23	Alton Parkway	Banting to Pacifica	69.9	RW	133	286
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.3	88	189	407
25	Alton Parkway	Ada to Technology Drive East	70.3	88	191	411

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Table 9

26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.6	RW	127	273
27	Alton Parkway	Jeronimo Road to Hughes	70.0	84	181	390
28	Alton Parkway	Hughes to Morgan	69.8	RW	174	376
29	Alton Parkway	Morgan to Toledo Way	69.0	RW	156	336
30	Alton Parkway	San Marino to Culver Drive	69.1	RW	157	338
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.9	RW	154	332
32	Alton Parkway	Hospital to Laguna Canyon Road	71.9	81	174	374
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.8	79	169	364
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.7	RW	149	322
35	Alton Parkway	Foster to Irvine Boulevard	68.7	RW	148	318
36	Alton Parkway	Fairbanks to Foster	68.4	RW	142	307
37	Alton Parkway	Toledo Way to Bertea	68.4	RW	142	306
38	Alton Parkway	Pacifica to Meridian	71.5	76	164	353
39	Alton Parkway	Bertea to Fairbanks	68.3	RW	140	301
40	Alton Parkway	Meridian to Irvine Center Drive	68.2	RW	137	294
41	Alton Parkway	Paseo Westpark to San Marino	68.1	RW	136	293
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.5	RW	124	268
43	Astor	Lynx to Fairbanks	67.0	RW	51	110
44	Astor	Cadence to Lynx	65.8	RW	42	91
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.6	276	595	1282
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.9	131	283	609
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.0	216	466	1004
48	Bake Parkway	Jeronimo Road to Toledo Way	72.0	114	245	528
49	Bake Parkway	Toledo Way to Cromwell	71.6	108	232	501
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	107	232	499
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.5	RW	168	362
52	Bake Parkway	Irvine Center Drive to Research Drive	64.8	RW	RW	176
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.4	RW	RW	141
54	Banting	Alton Parkway to Barranca Parkway	60.2	RW	RW	64
55	Barranca Parkway	Pacifica to Irvine Center Drive	73.1	100	216	465
56	Barranca Parkway	Banting to Pacifica	72.7	94	203	438

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Table 9

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	72.6	94	202	436
58	Barranca Parkway	Technology Drive West to Ada	72.6	93	199	430
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	72.3	90	193	416
60	Barranca Parkway	Culver Drive to West Yale Loop	72.2	87	188	406
61	Barranca Parkway	East Yale Loop to Jeffrey Road	72.1	86	186	400
62	Barranca Parkway	West Yale Loop to Lake Road	72.0	85	183	394
63	Barranca Parkway	Ada to Alton Parkway	72.0	85	184	396
64	Barranca Parkway	Lake Road to Creek Road	71.7	81	175	376
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.7	204	440	949
66	Barranca Parkway	Discovery/Herchel to Banting	71.6	79	171	368
67	Barranca Parkway	Lyon to East Yale Loop	71.5	78	168	363
68	Barranca Parkway	Creek Road to Lyon	71.4	77	166	358
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.7	120	259	559
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	70.8	70	152	327
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.3	115	247	532
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.6	69	149	320
73	Barranca Parkway	Jamboree Road to Construction Circle	71.0	98	212	457
74	Barranca Parkway	Santa Rosa to Culver Drive	70.9	96	207	446
75	Barranca Parkway	FedEx to Discovery/Herchel	70.2	64	139	299
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	70.2	64	138	298
77	Barranca Parkway	Laguna Canyon Road to FedEx	70.1	63	136	294
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.6	174	374	807
79	Barranca Parkway	Construction Circle to Fire Station	70.5	90	194	418
80	Barranca Parkway	Fire Station to Harvard Avenue	70.5	90	194	418
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.4	90	193	416
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	70.1	85	183	394
83	Bay Tree	Trabuco Road to Roosevelt	57.2	RW	RW	RW
84	Beacon	Ridge Valley to Benchmark	59.6	RW	RW	RW
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.5	RW	RW	RW
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.6	RW	127	274
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.3	78	168	363

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Table 9

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.6	RW	129	279
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	RW	123	264
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	68.0	RW	118	255
91	Bosque	Cadence to Great Park Boulevard	65.2	RW	39	83
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.5	RW	RW	64
93	Bosque	Benchmark to Cadence	63.1	RW	RW	60
94	Bosque	Great Park Boulevard to Beacon	56.7	RW	RW	RW
95	Bosque	Beacon to S 5th Street	56.1	RW	RW	RW
96	Bryan Avenue	Jamboree Road to Market Place	68.9	RW	115	247
97	Bryan Avenue	Market Place to El Camino Real	68.9	RW	113	244
98	Bryan Avenue	Rubicon to Culver Drive	68.9	RW	113	244
99	Bryan Avenue	El Camino Real to Rubicon	68.8	RW	113	243
100	Bryan Avenue	Eastwood to Jeffrey Road	66.9	RW	84	181
101	Bryan Avenue	Westwood to Yale Avenue	66.6	RW	80	173
102	Bryan Avenue	Culver Drive to Westwood	66.6	RW	79	171
103	Bryan Avenue	Yale Avenue to Eastwood	66.4	RW	77	167
104	Cadence	Pusan to Chinon	65.6	RW	41	88
105	Cadence	Bosque to Pusan	65.3	RW	39	85
106	Cadence	Ridge Valley (O Street) to Bosque	63.9	RW	RW	68
107	Cadence	Chinon to Merit	62.2	RW	RW	52
108	Cadence	Merit to Astor	59.4	RW	RW	RW
109	California Avenue	University Drive to Academy Way	66.2	RW	76	163
110	California Avenue	Campus Drive to Harvard Avenue	64.2	RW	RW	120
111	California Avenue	Theory to Bison Avenue	63.9	RW	RW	114
112	Campus Drive	Carlson Avenue to University Drive	73.2	82	176	379
113	Campus Drive	University Drive to Bridge Road	71.8	82	177	380
114	Campus Drive	Jamboree Road to Carlson Avenue	71.5	78	169	363
115	Campus Drive	Stanford Court to Berkeley Avenue	71.1	74	159	342
116	Campus Drive	California Avenue to Culver Drive	70.9	72	155	334
117	Campus Drive	Berkeley Avenue to Cornell	70.0	RW	134	288
118	Campus Drive	Martin to Von Karman Avenue	69.0	RW	115	247

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Table 9

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.7	RW	110	238
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.3	RW	104	224
121	Campus Drive	MacArthur Boulevard to Martin	68.2	RW	102	220
122	Campus Drive	Teller Avenue to Jamboree Road	67.5	RW	91	196
123	Carlson Avenue	Michelson Drive to Campus Drive	67.9	RW	97	210
124	Chinon	Irvine Boulevard to Cadence	59.0	RW	RW	RW
125	Creek Road	Alton Parkway to Barranca Parkway	56.1	RW	RW	RW
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.9	154	331	713
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.8	151	326	703
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	153	330	711
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.9	152	327	704
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	146	315	678
131	Culver Drive	San Leandro to Main Street	73.3	140	302	650
132	Culver Drive	Harvard Avenue to University Drive	73.3	140	302	651
133	Culver Drive	Trabuco Road to Farwell Avenue	74.3	154	331	713
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	137	295	637
135	Culver Drive	Main Street to Alton Parkway	73.1	135	290	625
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	133	286	615
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.9	131	283	609
138	Culver Drive	Barranca Parkway to Warner Avenue	72.8	130	280	603
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.0	85	183	394
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.5	124	268	577
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	124	267	575
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	122	262	564
143	Culver Drive	Palo Verde to Campus Drive	71.6	80	172	370
144	Culver Drive	University Drive to Sandburg Way	72.2	118	253	546
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.2	131	282	607
146	Culver Drive	Campus Drive to High School	72.1	116	249	537
147	Culver Drive	High School to Harvard Avenue	72.0	114	247	531
148	Culver Drive	Bryan Avenue to Florence	71.8	110	238	513
149	Culver Drive	Portola Parkway to Settlers	71.1	74	161	346

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Table 9

150	Culver Drive	Florence to Irvine Boulevard	71.7	109	235	505
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	91	196	423
152	Culver Drive	Viewpark to Meadowood	70.4	90	193	415
153	Culver Drive	Settlers to Furrow	68.4	RW	106	228
154	Culver Drive	Meadowood to Portola Parkway	69.0	RW	154	333
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	64.0	RW	RW	115
156	Discovery Drive	Waterworks Way to Irvine Center Drive	61.2	RW	RW	75
157	East Yale Loop	Alton Parkway to Witherspoon	65.5	RW	67	145
158	East Yale Loop	Osborn Street to Barranca Parkway	65.3	RW	65	140
159	East Yale Loop	Yale Avenue to Springbrook South	64.8	RW	RW	131
160	East Yale Loop	Springbrook North to Alton Parkway	63.5	RW	RW	108
161	East Yale Loop	Woodspring to Yale Avenue	62.7	RW	RW	95
162	East Yale Loop	Barranca Parkway to Eastshore	62.4	RW	RW	91
163	Eastwood	Bryan Avenue to Monticello	60.8	RW	RW	42
164	Eastwood	Columbus to Bryan Avenue	58.7	RW	RW	RW
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.1	RW	86	186
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	RW	RW	90
167	Fairbanks	Alton Parkway to Astor	69.7	RW	77	167
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.9	RW	50	108
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.1	RW	RW	117
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	63.3	RW	RW	103
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	62.1	RW	RW	86
172	Gateway Boulevard	Irvine Center Drive to Meridian	59.1	RW	RW	RW
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.4	119	256	551
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.2	64	139	299
175	Great Park Boulevard (EB)	Bosque to Skyhawk	68.8	RW	67	144
176	Great Park Boulevard (WB)	Bosque to Skyhawk	68.3	RW	62	134
177	Harvard Avenue	University Drive to Michelson Drive	72.0	51	109	236
178	Harvard Avenue	Michelson Drive to Coronado	70.4	67	144	310
179	Harvard Avenue	San Marino to Alton Parkway	70.1	64	138	297
180	Harvard Avenue	Coronado to Main Street	70.1	64	137	295

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Table 9

181	Harvard Avenue	San Carlo to San Marino	70.0	63	136	292
182	Harvard Avenue	Main Street to San Carlo	70.0	RW	134	289
183	Harvard Avenue	Alton Parkway to San Leon	68.8	RW	111	239
184	Harvard Avenue	San Juan to Barranca Parkway	68.8	RW	111	239
185	Harvard Avenue	San Leon to San Juan	68.6	RW	108	233
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.4	RW	91	195
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.3	RW	90	193
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.8	RW	97	208
189	Harvard Avenue	Bridge Road to University Drive	67.8	RW	96	207
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.8	RW	96	208
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.7	RW	88	191
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.2	RW	88	190
193	Harvard Avenue	Culver Drive to California Avenue	67.2	RW	88	189
194	Harvard Avenue	Berkeley to Bridge Road	67.1	RW	87	187
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.8	RW	82	176
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	RW	RW	RW
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.5	RW	RW	RW
198	Hubble	Irvine Center Drive to Bunsen	55.9	RW	RW	RW
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.3	120	258	557
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.2	118	254	547
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.1	128	277	596
202	Irvine Boulevard	Merit to Alton	71.6	108	232	500
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.6	107	231	497
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.2	100	216	466
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	98	211	455
206	Irvine Boulevard	Palo Lado to Yale Avenue	71.1	99	213	459
207	Irvine Boulevard	Culver Drive to Palo Lado	71.0	98	212	457
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.9	97	209	451
209	Irvine Boulevard	Old Myford Road to Market Place	71.0	97	210	452
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.9	97	209	450
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.9	96	207	445

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Table 9

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.9	96	206	444
213	Irvine Boulevard	Jeffrey Road to Groveland	70.8	94	203	438
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.6	92	199	429
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to JeffreyRoad	70.6	92	199	429
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	90	194	418
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.5	90	195	420
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.3	89	191	411
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.3	88	190	410
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	87	188	404
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.9	RW	178	383
222	Irvine Boulevard	Parker to Bake Parkway	69.5	RW	169	364
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	RW	146	315
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.6	119	256	550
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	71.8	111	239	515
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.1	111	239	515
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.7	109	235	507
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.5	105	227	489
229	Irvine Center Drive	Culver Drive to Deerwood	71.4	105	226	486
230	Irvine Center Drive	Deerwood to Yale Avenue	71.4	104	224	483
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	71.4	104	225	484
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.3	103	222	479
233	Irvine Center Drive	Alton Parkway to Spectrum	71.0	98	211	456
234	Irvine Center Drive	Spectrum to Pacifica	71.0	97	210	452
235	Irvine Center Drive	Hearthstone to Culver Drive	70.9	96	207	446
236	Irvine Center Drive	Charter to Barranca Parkway	70.6	93	200	430
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.5	90	195	419
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.5	90	195	419
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.5	90	195	419
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.2	87	187	403
241	Irvine Center Drive	Research to Hubble	69.7	RW	174	375
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	69.8	RW	176	378

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Table 9

243	Irvine Center Drive	Bake Parkway to Muller	69.7	RW	173	373
244	Irvine Center Drive	Discovery to Charter	69.8	RW	176	380
245	Irvine Center Drive	Hubble to Bake Parkway	69.5	RW	167	360
246	Irvine Center Drive	Muller to Tesla	69.3	RW	162	349
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.2	RW	159	343
248	Irvine Center Drive	Tesla to Scientific Way	68.9	RW	154	331
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.7	RW	149	321
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.6	RW	146	314
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.6	RW	146	315
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.5	RW	145	312
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	70.9	97	208	448
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	168	362	780
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.6	188	405	873
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.9	152	328	707
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	77.0	291	628	1353
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.6	146	314	676
259	Jamboree Road	Main Street to Kelvin Avenue	76.3	264	569	1226
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.3	214	460	992
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	76.0	251	541	1166
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.9	249	537	1157
263	Jamboree Road	Birch Street to Campus Drive	72.9	132	283	611
264	Jamboree Road	Dupont Drive to Michelson Drive	73.8	144	310	668
265	Jamboree Road	Alton Parkway to Beckman	75.5	234	504	1086
266	Jamboree Road	Fairchild Road to Birch Street	73.4	136	292	629
267	Jamboree Road	Beckman to Barranca Parkway	75.2	223	481	1036
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	218	470	1013
269	Jamboree Road	Campus Drive to Dupont Drive	73.1	128	276	595
270	Jamboree Road	El Camino Real to West Drive	75.0	215	463	997
271	Jamboree Road	West Drive to Bryan Avenue	75.0	214	462	995
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.7	204	440	948
273	Jamboree Road	Koll Center to Fairchild Road	72.7	121	260	561

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Table 9

274	Jamboree Road	MacArthur Boulevard to Koll Center	72.6	120	258	557
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.7	94	202	436
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.1	260	561	1208
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.3	228	492	1059
278	Jamboree Road	Edinger Avenue to Walnut Avenue	78.0	217	468	1009
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.3	103	223	479
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.2	113	243	523
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.9	97	208	448
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.8	95	204	441
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.7	94	202	435
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.7	94	203	436
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.6	92	199	428
286	Jeffrey Road	Quail Creek to Alton Parkway	70.6	92	199	429
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.4	89	191	412
288	Jeffrey Road	Trabuco Road to Hideaway	69.6	RW	171	369
289	Jeffrey Road	Hideaway to Bryan Avenue	69.6	RW	171	369
290	Jeffrey Road	Roosevelt to Grove	70.4	85	182	392
291	Jeffrey Road	Grove to Trabuco Road	70.2	83	178	383
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.5	RW	143	308
293	Jeffrey Road	Encore to Portola Parkway	65.8	RW	95	205
294	Jeffrey Road	Irvine Boulevard to Encore	65.5	RW	91	196
295	Jeronimo Road	Goodyear to Bake Parkway	64.6	RW	RW	127
296	Jeronimo Road	Alton Parkway to Goodyear	64.3	RW	RW	121
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.3	139	300	645
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	69.9	RW	134	288
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	69.1	RW	118	254
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	67.9	RW	78	169
301	Laguna Canyon Road	Irvine Center Drive to Discovery	67.5	RW	92	198
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	67.9	RW	78	169
303	Laguna Canyon Road	Pasteur to Alton Parkway	66.9	RW	84	182
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	66.4	RW	78	167

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Table 9

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.1	RW	74	159
306	Laguna Canyon Road	Barranca Parkway to Waterworks	65.6	RW	69	149
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.3	RW	121	261
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.3	RW	121	260
309	Lake Forest Drive	Tesla to Bake Parkway	66.3	RW	103	222
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	RW	RW	RW
311	Lynx	Irvine Boulevard to Astor	53.2	RW	RW	RW
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.7	278	599	1291
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.6	277	596	1284
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.6	274	590	1271
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	RW	178	382
316	MacArthur Boulevard	Fairchild Road to University Drive	69.9	RW	177	382
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	87	187	402
318	MacArthur Boulevard	Michelson Drive to Douglas	72.1	137	296	637
319	MacArthur Boulevard	Douglas to Campus Drive	72.1	137	296	637
320	MacArthur Boulevard	Skypark to Main Street	69.5	RW	159	343
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.3	RW	140	302
322	MacArthur Boulevard	Birch Street to Jamboree Road	67.0	RW	114	245
323	MacArthur Boulevard	Campus Drive to Birch Street	69.3	RW	193	415
324	Main Street	Gillette Avenue to Von Karman Avenue	70.7	90	193	416
325	Main Street	MacArthur Boulevard to Mercantile	70.2	83	178	384
326	Main Street	Executive Park to MacArthur Boulevard	68.4	RW	141	304
327	Main Street	Von Karman Avenue to Cartwright	68.3	RW	140	302
328	Main Street	McDurmott to Red Hill Avenue	68.1	RW	134	290
329	Main Street	Red Hill Avenue to Executive Circle	68.0	RW	133	286
330	Main Street	Jamboree Road to Union	67.8	RW	129	279
331	Main Street	Culver Drive to West Yale Loop	67.1	RW	87	187
332	Main Street	Siglo to Jamboree Road	67.7	RW	126	272
333	Main Street	Veneto to Harvard Avenue	67.5	RW	124	267
334	Main Street	Paseo Westpark to Culver Drive	66.4	RW	77	167
335	Main Street	Harvard Avenue to San Mateo	66.4	RW	77	166

Table 9

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.3	71	153	329
337	Marine Way	Alton Parkway to Bake Parkway	69.3	RW	120	259
338	Marine Way	Lynx to Barranca Parkway	69.3	RW	122	262
339	Marine Way	County Access to Treble	68.4	RW	105	227
340	Marine Way	Ridge Valley (O Street) to Skyhawk	68.2	RW	102	220
341	Marine Way	Skyhawk to County Access	67.1	RW	86	186
342	Marine Way	Barranca Parkway to Alton Parkway	66.8	RW	82	177
343	Marine Way	Treble to Lynx	66.4	RW	77	167
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	64.3	RW	RW	120
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	64.1	RW	RW	118
346	McGaw Avenue	Daimler to Red Hill Avenue	62.4	RW	RW	90
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.3	RW	RW	RW
348	Meadowood	Culver Drive to Canyonwood	59.8	RW	RW	RW
349	Meridian	Spectrum to Alton Parkway	55.3	RW	RW	RW
350	Meridian	Alton Parkway to Gateway Boulevard	54.6	RW	RW	RW
351	Merit	Irvine Boulevard to Cadence	57.9	RW	RW	RW
352	Michelson Drive	Riparian to Harvard Avenue	68.3	RW	103	223
353	Michelson Drive	Almond Tree Lane to Yale Avenue	67.1	RW	52	112
354	Michelson Drive	Von Karman Avenue to Obsidian	68.0	RW	99	213
355	Michelson Drive	Parkside to Culver Drive	67.8	RW	95	206
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.8	RW	49	106
357	Michelson Drive	Carlson to Prince	67.3	RW	107	230
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.3	RW	89	193
359	Michelson Drive	Harvard Avenue to Parkside	66.8	RW	82	177
360	Michelson Drive	Bixby to Von Karman Avenue	66.7	RW	81	175
361	Michelson Drive	Jamboree Road to Carlson	69.6	RW	122	263
362	Michelson Drive	Teller to Jamboree Road	69.6	RW	122	263
363	Michelson Drive	Jordan East to University Drive	66.9	RW	40	87
364	Michelson Drive	Culver Drive to Angell	66.2	RW	48	103
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	39	84	181
366	Modjeska (A Street)	South of Irvine Boulevard	61.1	RW	RW	45

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Table 9

367	Muirlands Boulevard	Bake Parkway to City Limits	67.1	RW	86	186
368	Muirlands Boulevard	Alton Parkway to Sterling	66.3	RW	76	165
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.3	RW	76	165
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.6	RW	80	173
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.1	RW	63	136
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	61.9	RW	RW	83
373	Northwood	Yale Avenue to Savannah	62.5	RW	RW	55
374	Northwood	Goldrush to Yale Avenue	61.5	RW	RW	47
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	69.2	RW	72	155
376	Pacifica	Gateway to Barranca Parkway	65.2	RW	64	139
377	Pacifica	Alton Parkway to Gateway	64.0	RW	RW	116
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	62.7	RW	RW	94
379	Pacifica	Meridian to Alton Parkway	60.8	RW	RW	70
380	Park Place	Christamon South to Yale Avenue	57.0	RW	RW	RW
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.5	79	170	367
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.5	79	170	367
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.4	77	166	358
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	71.0	73	157	339
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.1	63	136	292
386	Portola Parkway	Gatepark to Culver Drive	70.6	92	198	427
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.5	91	197	424
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.4	89	193	415
389	Portola Parkway	Jamboree Road to Bellevue	70.4	89	191	412
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.3	88	190	410
391	Portola Parkway	Yale Avenue to Jeffrey Road	70.1	85	183	394
392	Portola Parkway	Culver Drive to Yale Avenue	69.6	RW	169	364
393	Portola Parkway	Silverado to Portola Springs	68.5	RW	108	232
394	Pusan	Irvine Boulevard to Cadence	56.2	RW	RW	RW
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.4	RW	91	195
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.5	RW	67	145
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.8	RW	RW	RW

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Table 9

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.5	105	227	489
399	Red Hill Avenue	I-405 Over Crossing to Main Street	70.1	64	137	295
400	Red Hill Avenue	Alton Parkway to Deere Avenue	70.0	84	181	390
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.9	RW	178	384
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.8	RW	174	375
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.3	73	157	339
404	Red Hill Avenue	Main Street to Skypark East	70.6	66	142	307
405	Research Drive	Hubble to Bake Parkway	69.5	RW	125	269
406	Research Drive	Scientific to Lake Forest Drive	67.4	RW	90	194
407	Research Drive	Bake Parkway to Muller	66.6	RW	80	172
408	Research Drive	Irvine Center Drive to Bunsen	65.6	RW	69	148
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.3	RW	88	190
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.4	RW	78	167
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	RW	73	157
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	RW	RW	RW
413	Ridgeline Drive	Concordia East to University Drive	68.7	RW	71	152
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.4	RW	67	145
415	Rockfield Avenue	Whatney to McLaren	67.6	RW	93	201
416	Rockfield Avenue	Bake Parkway to Whatney	64.1	RW	RW	118
417	Rockfield Avenue	Thomas to Bake Parkway	63.1	RW	RW	100
418	Roosevelt	Jeffrey Road to Vision	66.5	RW	78	169
419	Roosevelt	Yale Avenue to Van Buren	68.2	RW	49	105
420	Roosevelt	Vision to Bay Tree	66.2	RW	76	163
421	Roosevelt	Nimitz to Jeffrey Road	65.9	RW	71	154
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.6	RW	69	148
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	RW	RW	56
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	72.1	115	248	535
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	71.9	113	244	525
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.6	121	260	561
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.7	121	260	560
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.6	204	440	947

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Table 9

429	Sand Canyon Avenue	Trabuco Road to Towngate	71.1	99	213	459
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	70.8	95	206	443
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	73.8	181	389	838
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.6	92	198	426
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.5	172	371	799
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.5	102	220	474
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.5	171	369	795
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.4	89	193	415
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.2	87	187	403
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	69.2	RW	119	257
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	153	331	712
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.6	88	189	407
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.7	78	169	364
442	Scientific Way	Irvine Center Drive to Wald	55.0	RW	RW	RW
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	69.2	RW	71	153
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.5	RW	74	159
445	Skyhawk	Great Park Boulevard to Marine Way	59.6	13	27	59
446	Southwood	Yale Avenue to Colt	60.5	9	19	41
447	Southwood	Challenger to Yale Avenue	60.2	8	18	39
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.9	18	39	84
449	Spectrum Center Drive (FortuneDrive)	Quassar Drive (Spectrum) to Gatewayb	62.4	19	42	90
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.6	9	20	43
451	Technology Drive	Barranca Parkway to Alton Parkway	70.6	68	147	317
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	69.2	56	120	258
453	Technology Drive	I-5/SR-133 to Barranca Parkway	69.1	54	117	251
454	Technology Drive	Ada to Alton Parkway	63.0	21	46	98
455	Toledo Way	Bake Parkway to City Limits	65.7	32	69	149
456	Toledo Way	Goodyear to Bake Parkway	64.7	28	60	128
457	Toledo Way	Alton Parkway to Parker	64.3	26	56	122
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.1	40	87	187
459	Trabuco Road	Jeffrey Road to Keystone	66.9	39	84	180

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Table 9

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.7	38	82	176
461	Trabuco Road	Monroe to Yale Avenue	66.6	37	80	173
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.5	37	79	170
463	Trabuco Road	Yale Avenue to Remington	66.2	35	75	161
464	Trabuco Road	Remington to Jeffrey Road	66.0	34	73	156
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.8	52	111	240
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.8	27	58	125
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.7	27	57	123
468	Turtle Rock Drive	Canyon Park to Ridgeline	67.0	24	51	110
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	15	32	69
470	Turtle Rock Drive	Campus Drive to Hillgate	64.1	25	54	116
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.4	20	43	92
472	University Drive	Golden Glow to Yale Avenue	72.9	98	211	455
473	University Drive	Ridgeline to Michelson Drive	72.5	111	239	514
474	University Drive	Culver Drive to Golden Glow	72.8	96	207	446
475	University Drive	Yale Avenue to Ridgeline	72.3	89	192	414
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.7	126	272	587
477	University Drive	Mesa to Campus Drive	74.5	119	256	552
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.4	117	253	545
479	University Drive	California Avenue to Mesa	74.3	117	252	543
480	University Drive	Campus Drive to Harvard Avenue	70.6	93	200	430
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.5	63	136	292
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.1	86	185	399
483	University Drive	San Joaquin to Culver Drive	69.7	81	174	375
484	University Drive	Harvard Avenue to San Joaquin	69.7	80	173	374
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.0	46	99	213
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	69.0	43	93	201
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	66.7	38	82	176
488	Valley Oak Drive	Alton Parkway to Hawkcreek	64.8	28	61	131
489	Von Karman Avenue	Marriott to Morse Avenue	70.9	72	155	333
490	Von Karman Avenue	Michelson Drive to Quartz	70.7	70	151	324

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Table 9

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.7	69	149	321
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	70.3	79	170	366
493	Von Karman Avenue	Main Street to Anchor	70.6	68	147	317
494	Von Karman Avenue	Anchor to McGaw Avenue	70.4	67	144	310
495	Von Karman Avenue	Morse to Main Street	70.2	65	139	300
496	Von Karman Avenue	Martin to Dupont Drive	69.5	58	125	270
497	Von Karman Avenue	Campus Drive to Martin	69.5	57	124	267
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.5	57	124	267
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	70.9	71	154	331
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	69.1	54	117	251
501	Walnut Avenue	The Mall Street to Culver Drive	68.7	51	110	237
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.7	51	110	237
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.4	49	105	225
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.4	49	105	225
505	Walnut Avenue	Culver Drive to Franciscan Street	68.3	48	104	223
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.9	61	131	283
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.8	59	128	276
508	Walnut Avenue	Yale Avenue to Kazan Street	67.1	40	86	186
509	Walnut Avenue	Wisteria to Jeffrey Road	67.1	40	86	185
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.2	64	138	297
511	Warner Avenue	Construction North to Harvard Avenue	68.6	50	108	233
512	Warner Avenue	Harvard Avenue to Paseo Westpark	67.0	39	85	183
513	Warner Avenue	Santa Ynez to Culver Drive	66.0	34	73	157
514	Warner Avenue	Culver Drive to West Yale Loop	65.7	32	69	149
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	25	54	115
516	West Yale Loop	Eagle Run to Main Street	63.8	24	52	113
517	West Yale Loop	Thunder Run to Yale Avenue	63.9	24	53	113
518	West Yale Loop	Main Street to Timber Run	62.9	21	45	98
519	West Yale Loop	Yale Avenue to Shorebird	62.9	21	45	97
520	West Yale Loop	Warner Avenue to Stonecreek South	62.6	20	43	93
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	20	42	91

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Table 9

522	West Yale Loop	Stonecreek North to Warner Avenue	62.4	19	42	90
523	West Yale Loop	Birdsong to Barranca Parkway	62.3	19	41	89
524	Westwood	Yorktown to Bryan Avenue	63.6	14	30	65
525	Westwood	Bryan Avenue to Leaf	61.5	10	22	47
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	30	65	141
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.3	25	54	116
528	Yale Avenue	Walnut Avenue to Roosevelt	71.0	46	100	216
529	Yale Avenue	Roosevelt to Trabuco Road	67.0	40	85	184
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.9	39	84	180
531	Yale Avenue	West Yale Loop to Irvine Center Drive	66.3	35	76	164
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.7	32	69	149
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.7	32	69	149
534	Yale Avenue	Trabuco Road to Southwood	65.6	32	68	147
535	Yale Avenue	Southwood to Bryan Avenue	65.4	31	67	144
536	Yale Avenue	Northwood to Irvine Boulevard	65.1	30	64	138
537	Yale Avenue	Bryan Avenue to Monticello	65.0	29	63	135
538	Yale Avenue	Irvine Boulevard to Park Place	64.3	26	56	120
539	Yale Avenue	University Drive to Royce	63.4	18	39	85
540	Yale Court	Arborwood to Portola Parkway	60.3	8	18	39

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

Table 10: Preferred Cumualtive Plan Conditions Noise Contours

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ada	Barranca Parway to Marine Way	70.8	42	91	196
2	Ada	Alton Parkway to Barranca PArkway	69.2	RW	119	257
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	73.9	152	328	707
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	74.5	160	345	743
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.8	82	177	380
6	Alton Parkway	Gateway Boulevard to Enterprise	71.7	110	236	508
7	Alton Parkway	Jeffrey Road to Royal Oak	70.8	70	152	327
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.6	69	149	320
9	Alton Parkway	Culver Drive to West Yale Loop	70.6	69	148	319
10	Alton Parkway	West Yale Loop to Lake Road	70.6	69	148	318
11	Alton Parkway	Technology Drive West to Ada	72.4	116	250	539
12	Alton Parkway	Creek Road to East Yale Loop	70.6	68	147	316
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	70.5	67	145	313
14	Alton Parkway	Lake Road to Creek Road	70.3	66	141	305
15	Alton Parkway	Telemetry to Banting	70.4	66	142	307
16	Alton Parkway	Irvine Boulevard to Commercentre	70.9	96	207	446
17	Alton Parkway	Jenner to Telemetry	70.3	65	141	303
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	71.0	98	210	453
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.7	106	228	491
20	Alton Parkway	Laguna Canyon Road to Jenner	70.2	64	139	299
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	70.8	96	206	444
22	Alton Parkway	Royal Oak to Valley Oak Drive	70.0	63	135	291
23	Alton Parkway	Banting to Pacifica	69.9	RW	133	287
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.3	88	190	409
25	Alton Parkway	Ada to Technology Drive East	70.3	88	191	411

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Table 10

26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.7	RW	128	275
27	Alton Parkway	Jeronimo Road to Hughes	70.0	84	181	390
28	Alton Parkway	Hughes to Morgan	69.8	RW	174	376
29	Alton Parkway	Morgan to Toledo Way	69.0	RW	156	336
30	Alton Parkway	San Marino to Culver Drive	69.1	RW	158	341
31	Alton Parkway	Jamboree Road to Murphy Avenue	69.1	RW	159	342
32	Alton Parkway	Hospital to Laguna Canyon Road	72.0	81	175	376
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.8	79	170	366
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.9	RW	154	332
35	Alton Parkway	Foster to Irvine Boulevard	68.7	RW	149	320
36	Alton Parkway	Fairbanks to Foster	68.5	RW	143	309
37	Alton Parkway	Toledo Way to Bertea	68.4	RW	142	306
38	Alton Parkway	Pacifica to Meridian	71.6	76	165	355
39	Alton Parkway	Bertea to Fairbanks	68.3	RW	140	301
40	Alton Parkway	Meridian to Irvine Center Drive	68.2	RW	137	295
41	Alton Parkway	Paseo Westpark to San Marino	68.2	RW	137	296
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.7	RW	127	273
43	Astor	Lynx to Fairbanks	67.0	RW	51	110
44	Astor	Cadence to Lynx	65.8	RW	43	92
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.6	277	596	1284
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.9	132	284	612
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.0	217	468	1008
48	Bake Parkway	Jeronimo Road to Toledo Way	72.0	114	246	530
49	Bake Parkway	Toledo Way to Cromwell	71.7	108	233	503
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	108	232	500
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.6	RW	170	366
52	Bake Parkway	Irvine Center Drive to Research Drive	65.0	RW	84	181
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.7	RW	RW	148
54	Banting	Alton Parkway to Barranca Parkway	60.1	RW	RW	64
55	Barranca Parkway	Pacifica to Irvine Center Drive	73.1	101	217	467
56	Barranca Parkway	Banting to Pacifica	72.7	95	204	440

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Table 10

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	72.7	94	203	437
58	Barranca Parkway	Technology Drive West to Ada	72.6	93	201	433
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	72.4	90	194	417
60	Barranca Parkway	Culver Drive to West Yale Loop	72.2	88	190	409
61	Barranca Parkway	East Yale Loop to Jeffrey Road	72.1	87	187	402
62	Barranca Parkway	West Yale Loop to Lake Road	72.0	85	184	396
63	Barranca Parkway	Ada to Alton Parkway	72.0	86	184	397
64	Barranca Parkway	Lake Road to Creek Road	71.7	82	176	378
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.7	206	444	957
66	Barranca Parkway	Discovery/Herchel to Banting	71.6	80	172	371
67	Barranca Parkway	Lyon to East Yale Loop	71.5	78	169	364
68	Barranca Parkway	Creek Road to Lyon	71.4	78	167	360
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.7	121	261	561
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	70.8	71	153	329
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.4	116	249	537
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.7	70	150	323
73	Barranca Parkway	Jamboree Road to Construction Circle	71.1	99	213	459
74	Barranca Parkway	Santa Rosa to Culver Drive	71.0	97	210	452
75	Barranca Parkway	FedEx to Discovery/Herchel	70.3	65	140	302
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	70.3	65	140	302
77	Barranca Parkway	Laguna Canyon Road to FedEx	70.1	64	138	297
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.6	173	373	804
79	Barranca Parkway	Construction Circle to Fire Station	70.5	91	195	420
80	Barranca Parkway	Fire Station to Harvard Avenue	70.5	91	195	420
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.5	91	197	423
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	70.2	87	186	402
83	Bay Tree	Trabuco Road to Roosevelt	57.2	RW	RW	RW
84	Beacon	Ridge Valley to Benchmark	59.7	RW	RW	RW
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.5	RW	RW	RW
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.7	RW	129	277
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.3	78	169	363

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Table 10

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.6	RW	130	279
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	RW	123	264
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	68.0	RW	119	256
91	Bosque	Cadence to Great Park Boulevard	65.2	RW	39	83
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.5	RW	RW	64
93	Bosque	Benchmark to Cadence	63.1	RW	RW	60
94	Bosque	Great Park Boulevard to Beacon	56.7	RW	RW	RW
95	Bosque	Beacon to S 5th Street	56.1	RW	RW	RW
96	Bryan Avenue	Jamboree Road to Market Place	69.0	RW	115	249
97	Bryan Avenue	Market Place to El Camino Real	68.9	RW	114	245
98	Bryan Avenue	Rubicon to Culver Drive	68.9	RW	114	245
99	Bryan Avenue	El Camino Real to Rubicon	68.9	RW	113	243
100	Bryan Avenue	Eastwood to Jeffrey Road	67.0	RW	85	183
101	Bryan Avenue	Westwood to Yale Avenue	66.7	RW	81	174
102	Bryan Avenue	Culver Drive to Westwood	66.6	RW	80	172
103	Bryan Avenue	Yale Avenue to Eastwood	66.5	RW	79	170
104	Cadence	Pusan to Chinon	65.6	RW	41	89
105	Cadence	Bosque to Pusan	65.3	RW	39	85
106	Cadence	Ridge Valley (O Street) to Bosque	63.9	RW	RW	68
107	Cadence	Chinon to Merit	62.2	RW	RW	53
108	Cadence	Merit to Astor	59.4	RW	RW	RW
109	California Avenue	University Drive to Academy Way	67.2	RW	88	190
110	California Avenue	Campus Drive to Harvard Avenue	64.2	RW	RW	119
111	California Avenue	Theory to Bison Avenue	64.0	RW	RW	115
112	Campus Drive	Carlson Avenue to University Drive	73.3	83	178	384
113	Campus Drive	University Drive to Bridge Road	71.7	82	176	378
114	Campus Drive	Jamboree Road to Carlson Avenue	71.5	79	171	367
115	Campus Drive	Stanford Court to Berkeley Avenue	71.0	73	158	341
116	Campus Drive	California Avenue to Culver Drive	70.9	72	154	333
117	Campus Drive	Berkeley Avenue to Cornell	69.9	RW	133	286
118	Campus Drive	Martin to Von Karman Avenue	69.1	RW	118	254

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Table 10

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.7	RW	110	237
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.5	RW	106	229
121	Campus Drive	MacArthur Boulevard to Martin	68.3	RW	103	222
122	Campus Drive	Teller Avenue to Jamboree Road	67.5	RW	92	199
123	Carlson Avenue	Michelson Drive to Campus Drive	67.9	RW	98	211
124	Chinon	Irvine Boulevard to Cadence	59.0	RW	RW	RW
125	Creek Road	Alton Parkway to Barranca Parkway	56.2	RW	RW	RW
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.9	154	331	713
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.8	152	327	704
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	153	331	712
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.9	152	327	704
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	146	315	679
131	Culver Drive	San Leandro to Main Street	73.3	140	302	650
132	Culver Drive	Harvard Avenue to University Drive	73.3	140	302	651
133	Culver Drive	Trabuco Road to Farwell Avenue	74.2	153	330	711
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	137	296	637
135	Culver Drive	Main Street to Alton Parkway	73.1	135	290	625
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	133	286	617
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.9	131	282	608
138	Culver Drive	Barranca Parkway to Warner Avenue	72.9	131	281	606
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.0	85	182	393
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.5	124	267	576
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	124	266	574
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	122	263	567
143	Culver Drive	Palo Verde to Campus Drive	71.6	80	172	370
144	Culver Drive	University Drive to Sandburg Way	72.2	117	253	545
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.2	131	281	606
146	Culver Drive	Campus Drive to High School	72.1	116	250	539
147	Culver Drive	High School to Harvard Avenue	72.0	115	247	532
148	Culver Drive	Bryan Avenue to Florence	71.8	111	238	513
149	Culver Drive	Portola Parkway to Settlers	71.2	75	161	348

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Table 10

150	Culver Drive	Florence to Irvine Boulevard	71.7	109	235	506
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	91	196	423
152	Culver Drive	Viewpark to Meadowood	70.4	89	192	414
153	Culver Drive	Settlers to Furrow	68.5	RW	107	230
154	Culver Drive	Meadowood to Portola Parkway	69.0	RW	155	333
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	64.0	RW	RW	115
156	Discovery Drive	Waterworks Way to Irvine Center Drive	61.2	RW	RW	76
157	East Yale Loop	Alton Parkway to Witherspoon	65.5	RW	68	146
158	East Yale Loop	Osborn Street to Barranca Parkway	65.3	RW	65	141
159	East Yale Loop	Yale Avenue to Springbrook South	64.9	RW	RW	132
160	East Yale Loop	Springbrook North to Alton Parkway	63.6	RW	RW	108
161	East Yale Loop	Woodspring to Yale Avenue	62.7	RW	RW	95
162	East Yale Loop	Barranca Parkway to Eastshore	62.4	RW	RW	91
163	Eastwood	Bryan Avenue to Monticello	60.8	RW	RW	42
164	Eastwood	Columbus to Bryan Avenue	58.8	RW	RW	RW
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.1	RW	87	187
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	RW	RW	90
167	Fairbanks	Alton Parkway to Astor	69.8	RW	78	168
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.9	RW	50	109
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.0	RW	RW	116
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	63.3	RW	RW	103
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	62.1	RW	RW	86
172	Gateway Boulevard	Irvine Center Drive to Meridian	59.2	RW	RW	RW
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.5	119	257	553
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.2	65	139	300
175	Great Park Boulevard (EB)	Bosque to Skyhawk	68.9	RW	68	146
176	Great Park Boulevard (WB)	Bosque to Skyhawk	68.3	RW	62	135
177	Harvard Avenue	University Drive to Michelson Drive	72.0	51	110	238
178	Harvard Avenue	Michelson Drive to Coronado	70.5	67	145	312
179	Harvard Avenue	San Marino to Alton Parkway	70.2	65	139	300
180	Harvard Avenue	Coronado to Main Street	70.2	64	138	298

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Table 10

181	Harvard Avenue	San Carlo to San Marino	70.1	64	137	295
182	Harvard Avenue	Main Street to San Carlo	70.0	63	135	291
183	Harvard Avenue	Alton Parkway to San Leon	68.6	RW	109	234
184	Harvard Avenue	San Juan to Barranca Parkway	68.7	RW	110	237
185	Harvard Avenue	San Leon to San Juan	68.6	RW	108	233
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.4	RW	91	195
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.4	RW	90	193
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.9	RW	97	210
189	Harvard Avenue	Bridge Road to University Drive	67.8	RW	96	206
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.8	RW	96	207
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.8	RW	89	192
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.2	RW	88	190
193	Harvard Avenue	Culver Drive to California Avenue	67.2	RW	87	188
194	Harvard Avenue	Berkeley to Bridge Road	67.1	RW	87	187
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.8	RW	82	177
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	RW	RW	RW
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.6	RW	RW	RW
198	Hubble	Irvine Center Drive to Bunsen	56.1	RW	RW	RW
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.3	120	258	557
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.1	116	250	540
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.1	128	277	596
202	Irvine Boulevard	Merit to Alton	71.6	108	232	500
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.7	109	234	505
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.1	99	213	459
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	98	211	455
206	Irvine Boulevard	Palo Lado to Yale Avenue	71.2	101	217	467
207	Irvine Boulevard	Culver Drive to Palo Lado	71.1	100	216	464
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	71.0	98	211	455
209	Irvine Boulevard	Old Myford Road to Market Place	71.0	98	212	457
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	71.0	97	210	452
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.9	97	209	451

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Table 10

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.9	97	209	449
213	Irvine Boulevard	Jeffrey Road to Groveland	71.0	97	210	452
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.7	93	200	431
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to JeffreyRoad	70.6	93	200	431
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	90	194	418
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.5	91	196	423
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.4	90	193	416
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.4	89	192	414
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	87	188	404
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.9	RW	179	386
222	Irvine Boulevard	Parker to Bake Parkway	69.7	RW	172	370
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	RW	146	315
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.7	121	260	559
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	71.9	112	241	519
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.3	113	244	525
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.8	110	237	511
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.5	107	229	494
229	Irvine Center Drive	Culver Drive to Deerwood	71.5	106	227	490
230	Irvine Center Drive	Deerwood to Yale Avenue	71.4	105	226	486
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	71.5	105	227	489
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.4	104	223	481
233	Irvine Center Drive	Alton Parkway to Spectrum	71.1	99	213	459
234	Irvine Center Drive	Spectrum to Pacifica	71.0	98	211	455
235	Irvine Center Drive	Hearthstone to Culver Drive	70.9	96	208	448
236	Irvine Center Drive	Charter to Barranca Parkway	70.7	93	201	433
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.5	91	195	420
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.6	91	197	424
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.5	91	196	422
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.2	87	187	403
241	Irvine Center Drive	Research to Hubble	70.0	84	181	389
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	69.9	RW	177	382

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Table 10

243	Irvine Center Drive	Bake Parkway to Muller	69.9	RW	177	381
244	Irvine Center Drive	Discovery to Charter	69.9	RW	178	383
245	Irvine Center Drive	Hubble to Bake Parkway	69.6	RW	170	366
246	Irvine Center Drive	Muller to Tesla	69.4	RW	165	355
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.2	RW	160	344
248	Irvine Center Drive	Tesla to Scientific Way	69.1	RW	158	339
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.9	RW	153	329
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.7	RW	148	319
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.7	RW	147	317
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.6	RW	146	314
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	70.9	97	209	451
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	168	362	780
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.6	189	408	878
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.9	153	329	708
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	77.0	292	630	1357
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.7	148	319	687
259	Jamboree Road	Main Street to Kelvin Avenue	76.4	266	573	1234
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.3	214	462	996
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	76.0	253	545	1174
262	Jamboree Road	McGaw Avenue to Alton Parkway	76.0	252	542	1168
263	Jamboree Road	Birch Street to Campus Drive	73.0	132	285	615
264	Jamboree Road	Dupont Drive to Michelson Drive	73.9	145	312	672
265	Jamboree Road	Alton Parkway to Beckman	75.6	237	510	1099
266	Jamboree Road	Fairchild Road to Birch Street	73.5	137	294	634
267	Jamboree Road	Beckman to Barranca Parkway	75.3	226	487	1049
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	218	470	1013
269	Jamboree Road	Campus Drive to Dupont Drive	73.1	129	279	601
270	Jamboree Road	El Camino Real to West Drive	74.9	214	460	992
271	Jamboree Road	West Drive to Bryan Avenue	75.0	214	461	994
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.6	203	438	944
273	Jamboree Road	Koll Center to Fairchild Road	72.7	122	263	566

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Table 10

274	Jamboree Road	MacArthur Boulevard to Koll Center	72.7	120	259	559
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.7	94	202	436
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.1	261	562	1210
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.3	230	495	1067
278	Jamboree Road	Edinger Avenue to Walnut Avenue	78.0	218	469	1012
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.4	104	223	481
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.3	114	245	527
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.9	97	209	449
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.8	95	205	442
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.7	94	203	436
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.8	95	204	439
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.6	92	199	429
286	Jeffrey Road	Quail Creek to Alton Parkway	70.7	93	200	431
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.4	89	192	413
288	Jeffrey Road	Trabuco Road to Hideaway	69.7	RW	172	372
289	Jeffrey Road	Hideaway to Bryan Avenue	69.7	RW	172	371
290	Jeffrey Road	Roosevelt to Grove	70.4	85	182	393
291	Jeffrey Road	Grove to Trabuco Road	70.2	83	178	384
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.5	RW	145	312
293	Jeffrey Road	Encore to Portola Parkway	65.6	RW	92	197
294	Jeffrey Road	Irvine Boulevard to Encore	65.4	RW	89	192
295	Jeronimo Road	Goodyear to Bake Parkway	64.5	RW	RW	125
296	Jeronimo Road	Alton Parkway to Goodyear	64.3	RW	RW	120
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.4	141	305	656
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	70.0	RW	134	289
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	69.1	RW	118	255
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	68.0	RW	79	170
301	Laguna Canyon Road	Irvine Center Drive to Discovery	67.5	RW	92	198
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	68.0	RW	79	170
303	Laguna Canyon Road	Pasteur to Alton Parkway	67.0	RW	85	183
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	66.4	RW	77	167

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Table 10

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.1	RW	74	160
306	Laguna Canyon Road	Barranca Parkway to Waterworks	65.6	RW	68	148
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.5	RW	125	269
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.5	RW	124	267
309	Lake Forest Drive	Tesla to Bake Parkway	66.6	RW	107	231
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	RW	RW	RW
311	Lynx	Irvine Boulevard to Astor	53.2	RW	RW	RW
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.7	281	606	1305
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.7	278	599	1291
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.6	275	593	1278
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	RW	178	382
316	MacArthur Boulevard	Fairchild Road to University Drive	69.8	RW	176	380
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	86	185	399
318	MacArthur Boulevard	Michelson Drive to Douglas	72.2	141	303	652
319	MacArthur Boulevard	Douglas to Campus Drive	72.2	140	302	650
320	MacArthur Boulevard	Skypark to Main Street	69.5	RW	160	344
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.4	RW	141	303
322	MacArthur Boulevard	Birch Street to Jamboree Road	67.1	RW	117	251
323	MacArthur Boulevard	Campus Drive to Birch Street	69.4	RW	198	427
324	Main Street	Gillette Avenue to Von Karman Avenue	70.8	90	195	420
325	Main Street	MacArthur Boulevard to Mercantile	70.3	83	179	386
326	Main Street	Executive Park to MacArthur Boulevard	68.4	RW	142	305
327	Main Street	Von Karman Avenue to Cartwright	68.4	RW	141	304
328	Main Street	McDurmott to Red Hill Avenue	68.1	RW	135	290
329	Main Street	Red Hill Avenue to Executive Circle	68.0	RW	133	286
330	Main Street	Jamboree Road to Union	67.8	RW	129	279
331	Main Street	Culver Drive to West Yale Loop	67.2	RW	87	188
332	Main Street	Siglo to Jamboree Road	67.7	RW	127	273
333	Main Street	Veneto to Harvard Avenue	67.5	RW	124	267
334	Main Street	Paseo Westpark to Culver Drive	66.3	RW	77	166
335	Main Street	Harvard Avenue to San Mateo	66.3	RW	76	164

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Table 10

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.3	71	153	330
337	Marine Way	Alton Parkway to Bake Parkway	69.3	RW	121	261
338	Marine Way	Lynx to Barranca Parkway	69.3	RW	122	262
339	Marine Way	County Access to Treble	68.4	RW	106	228
340	Marine Way	Ridge Valley (O Street) to Skyhawk	68.2	RW	102	220
341	Marine Way	Skyhawk to County Access	67.2	RW	87	187
342	Marine Way	Barranca Parkway to Alton Parkway	66.8	RW	82	177
343	Marine Way	Treble to Lynx	66.4	RW	78	168
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	64.3	RW	RW	121
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	64.2	RW	RW	119
346	McGaw Avenue	Daimler to Red Hill Avenue	62.5	RW	RW	91
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.4	RW	RW	RW
348	Meadowood	Culver Drive to Canyonwood	59.8	RW	RW	RW
349	Meridian	Spectrum to Alton Parkway	55.5	RW	RW	RW
350	Meridian	Alton Parkway to Gateway Boulevard	54.7	RW	RW	RW
351	Merit	Irvine Boulevard to Cadence	58.0	RW	RW	RW
352	Michelson Drive	Riparian to Harvard Avenue	68.3	RW	103	222
353	Michelson Drive	Almond Tree Lane to Yale Avenue	67.1	RW	52	112
354	Michelson Drive	Von Karman Avenue to Obsidian	68.0	RW	99	214
355	Michelson Drive	Parkside to Culver Drive	67.8	RW	96	206
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.8	RW	49	106
357	Michelson Drive	Carlson to Prince	67.3	RW	107	230
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.3	RW	90	193
359	Michelson Drive	Harvard Avenue to Parkside	66.8	RW	83	178
360	Michelson Drive	Bixby to Von Karman Avenue	66.7	RW	81	175
361	Michelson Drive	Jamboree Road to Carlson	69.6	RW	122	262
362	Michelson Drive	Teller to Jamboree Road	69.6	RW	122	264
363	Michelson Drive	Jordan East to University Drive	66.9	RW	40	87
364	Michelson Drive	Culver Drive to Angell	66.2	RW	48	104
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	39	84	182
366	Modjeska (A Street)	South of Irvine Boulevard	61.0	RW	RW	44

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Table 10

367	Muirlands Boulevard	Bake Parkway to City Limits	67.2	RW	88	190
368	Muirlands Boulevard	Alton Parkway to Sterling	66.3	RW	76	165
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.3	RW	76	165
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.6	RW	80	173
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.1	RW	63	137
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	61.8	RW	RW	83
373	Northwood	Yale Avenue to Savannah	62.5	RW	RW	55
374	Northwood	Goldrush to Yale Avenue	61.5	RW	RW	47
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	69.2	RW	72	155
376	Pacifica	Gateway to Barranca Parkway	65.2	RW	65	140
377	Pacifica	Alton Parkway to Gateway	64.0	RW	RW	116
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	62.8	RW	RW	95
379	Pacifica	Meridian to Alton Parkway	60.8	RW	RW	70
380	Park Place	Christamon South to Yale Avenue	57.0	RW	RW	RW
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.7	81	174	375
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.7	81	174	374
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.5	78	169	363
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	71.1	74	159	343
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.1	64	137	296
386	Portola Parkway	Gatepark to Culver Drive	70.7	94	202	436
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.7	93	200	432
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	91	196	423
389	Portola Parkway	Jamboree Road to Bellevue	70.5	91	195	420
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.4	90	194	418
391	Portola Parkway	Yale Avenue to Jeffrey Road	70.2	87	187	404
392	Portola Parkway	Culver Drive to Yale Avenue	69.7	RW	172	371
393	Portola Parkway	Silverado to Portola Springs	68.6	RW	109	235
394	Pusan	Irvine Boulevard to Cadence	56.1	RW	RW	RW
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.4	RW	91	196
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.5	RW	67	145
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.9	RW	RW	RW

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Table 10

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.6	107	230	496
399	Red Hill Avenue	I-405 Over Crossing to Main Street	70.2	64	139	299
400	Red Hill Avenue	Alton Parkway to Deere Avenue	70.1	85	184	397
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	70.0	84	181	391
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.9	RW	177	382
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.4	74	160	345
404	Red Hill Avenue	Main Street to Skypark East	70.8	67	145	313
405	Research Drive	Hubble to Bake Parkway	69.5	RW	125	270
406	Research Drive	Scientific to Lake Forest Drive	67.8	RW	96	207
407	Research Drive	Bake Parkway to Muller	66.7	RW	82	176
408	Research Drive	Irvine Center Drive to Bunsen	65.7	RW	69	149
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.3	RW	89	191
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.4	RW	78	168
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	RW	73	157
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	RW	RW	RW
413	Ridgeline Drive	Concordia East to University Drive	68.7	RW	71	153
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.4	RW	67	145
415	Rockfield Avenue	Whatney to McLaren	67.7	RW	95	204
416	Rockfield Avenue	Bake Parkway to Whatney	64.2	RW	RW	119
417	Rockfield Avenue	Thomas to Bake Parkway	63.1	RW	RW	100
418	Roosevelt	Jeffrey Road to Vision	66.6	RW	80	173
419	Roosevelt	Yale Avenue to Van Buren	68.2	RW	49	106
420	Roosevelt	Vision to Bay Tree	66.4	RW	78	167
421	Roosevelt	Nimitz to Jeffrey Road	65.9	RW	72	155
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.7	RW	70	151
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	RW	RW	56
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	72.1	116	250	539
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	72.0	114	247	531
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.6	122	262	564
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.7	122	262	565
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.8	208	448	965

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Table 10

429	Sand Canyon Avenue	Trabuco Road to Towngate	71.3	102	220	473
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	70.9	96	207	447
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	74.0	184	396	854
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.6	92	199	429
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.5	171	369	794
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.5	103	222	479
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.7	177	382	824
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.7	93	201	433
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.3	88	189	408
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	70.4	66	142	306
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	153	331	712
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.6	88	190	410
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.8	79	170	366
442	Scientific Way	Irvine Center Drive to Wald	54.9	RW	RW	RW
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	69.2	RW	72	154
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.6	RW	75	161
445	Skyhawk	Great Park Boulevard to Marine Way	59.6	13	27	59
446	Southwood	Yale Avenue to Colt	60.6	9	19	41
447	Southwood	Challenger to Yale Avenue	60.3	8	18	39
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	62.0	18	39	85
449	Spectrum Center Drive (FortuneDrive)	Quassar Drive (Spectrum) to Gatewayb	62.5	20	42	91
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.6	9	20	43
451	Technology Drive	Barranca Parkway to Alton Parkway	70.6	68	147	318
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	69.3	56	120	259
453	Technology Drive	I-5/SR-133 to Barranca Parkway	69.1	54	117	252
454	Technology Drive	Ada to Alton Parkway	63.1	22	47	100
455	Toledo Way	Bake Parkway to City Limits	65.7	32	70	151
456	Toledo Way	Goodyear to Bake Parkway	64.7	28	60	129
457	Toledo Way	Alton Parkway to Parker	64.4	26	57	122
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.2	40	87	188
459	Trabuco Road	Jeffrey Road to Keystone	66.9	39	84	181

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Table 10

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.8	38	82	176
461	Trabuco Road	Monroe to Yale Avenue	66.7	38	81	176
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.6	37	80	173
463	Trabuco Road	Yale Avenue to Remington	66.3	35	76	164
464	Trabuco Road	Remington to Jeffrey Road	66.1	34	74	158
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.7	52	111	239
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.8	27	58	125
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.8	27	57	124
468	Turtle Rock Drive	Canyon Park to Ridgeline	67.0	24	51	109
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	15	32	69
470	Turtle Rock Drive	Campus Drive to Hillgate	64.0	25	54	116
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.4	20	43	92
472	University Drive	Golden Glow to Yale Avenue	73.0	99	213	458
473	University Drive	Ridgeline to Michelson Drive	72.6	111	240	517
474	University Drive	Culver Drive to Golden Glow	72.9	97	209	450
475	University Drive	Yale Avenue to Ridgeline	72.4	90	193	417
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.7	127	274	591
477	University Drive	Mesa to Campus Drive	74.6	121	260	561
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.6	122	263	567
479	University Drive	California Avenue to Mesa	74.4	119	256	551
480	University Drive	Campus Drive to Harvard Avenue	70.7	94	203	437
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.7	65	140	301
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.3	89	191	411
483	University Drive	San Joaquin to Culver Drive	69.8	81	176	378
484	University Drive	Harvard Avenue to San Joaquin	69.8	81	175	377
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.0	46	98	212
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	69.1	43	93	201
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	66.8	38	83	178
488	Valley Oak Drive	Alton Parkway to Hawkcreek	64.8	28	61	131
489	Von Karman Avenue	Marriott to Morse Avenue	70.9	72	155	334
490	Von Karman Avenue	Michelson Drive to Quartz	70.8	70	151	326

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Table 10

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.7	70	150	324
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	70.4	80	172	370
493	Von Karman Avenue	Main Street to Anchor	70.6	69	149	320
494	Von Karman Avenue	Anchor to McGaw Avenue	70.5	67	145	313
495	Von Karman Avenue	Morse to Main Street	70.2	65	140	301
496	Von Karman Avenue	Martin to Dupont Drive	69.6	59	126	272
497	Von Karman Avenue	Campus Drive to Martin	69.5	58	125	269
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.5	58	125	268
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	70.9	71	154	332
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	69.1	54	117	252
501	Walnut Avenue	The Mall Street to Culver Drive	68.8	52	111	240
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.7	51	111	239
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.5	50	107	230
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.3	48	104	225
505	Walnut Avenue	Culver Drive to Franciscan Street	68.4	49	105	226
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	68.0	62	133	286
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.8	60	129	278
508	Walnut Avenue	Yale Avenue to Kazan Street	67.2	41	88	189
509	Walnut Avenue	Wisteria to Jeffrey Road	67.2	40	87	188
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.1	64	137	295
511	Warner Avenue	Construction North to Harvard Avenue	68.5	50	107	231
512	Warner Avenue	Harvard Avenue to Paseo Westpark	67.0	39	85	182
513	Warner Avenue	Santa Ynez to Culver Drive	66.0	34	73	157
514	Warner Avenue	Culver Drive to West Yale Loop	65.7	32	70	150
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	25	54	116
516	West Yale Loop	Eagle Run to Main Street	63.9	24	52	113
517	West Yale Loop	Thunder Run to Yale Avenue	63.9	25	53	114
518	West Yale Loop	Main Street to Timber Run	62.8	21	45	96
519	West Yale Loop	Yale Avenue to Shorebird	63.0	21	46	100
520	West Yale Loop	Warner Avenue to Stonecreek South	62.6	20	43	93
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	20	42	91

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Table 10

522	West Yale Loop	Stonecreek North to Warner Avenue	62.5	20	42	91
523	West Yale Loop	Birdsong to Barranca Parkway	62.3	19	42	90
524	Westwood	Yorktown to Bryan Avenue	63.5	14	30	65
525	Westwood	Bryan Avenue to Leaf	61.5	10	22	47
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	30	66	141
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.3	25	54	116
528	Yale Avenue	Walnut Avenue to Roosevelt	71.0	47	101	218
529	Yale Avenue	Roosevelt to Trabuco Road	67.1	40	86	185
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.9	39	84	180
531	Yale Avenue	West Yale Loop to Irvine Center Drive	66.4	36	77	166
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.7	32	70	151
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.7	32	70	151
534	Yale Avenue	Trabuco Road to Southwood	65.7	32	69	149
535	Yale Avenue	Southwood to Bryan Avenue	65.5	31	67	145
536	Yale Avenue	Northwood to Irvine Boulevard	65.1	30	64	138
537	Yale Avenue	Bryan Avenue to Monticello	65.0	29	63	135
538	Yale Avenue	Irvine Boulevard to Park Place	64.3	26	56	120
539	Yale Avenue	University Drive to Royce	63.5	18	40	85
540	Yale Court	Arborwood to Portola Parkway	60.3	9	18	40

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

Table 11:Existing and Current General Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]			Incremental Noise Level Increase Threshold[3]	
			Existing	Current General Plan	Project Addition	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	0.0	0.0	5.0	No
2	Ada	Alton Parkway to Barranca PArkway	60.3	67.1	6.8	3.0	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	72.6	1.3	1.5	No
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	73.3	1.2	1.5	No
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.3	71.5	0.2	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	70.5	1.2	1.5	No
7	Alton Parkway	Jeffrey Road to Royal Oak	70.1	70.4	0.3	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	70.4	6.7	3.0	**Yes**
9	Alton Parkway	Culver Drive to West Yale Loop	70.4	70.5	0.1	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.3	70.5	0.2	1.5	No
11	Alton Parkway	Technology Drive West to Ada	70.2	71.4	1.2	1.5	No
12	Alton Parkway	Creek Road to East Yale Loop	70.1	70.3	0.2	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	69.9	1.8	1.5	**Yes**
14	Alton Parkway	Lake Road to Creek Road	70.1	70.3	0.2	1.5	No
15	Alton Parkway	Telemetry to Banting	69.0	69.8	0.8	1.5	No
16	Alton Parkway	Irvine Boulevard to Commercentre	70.3	71.0	0.7	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.0	69.7	0.7	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	69.8	1.2	1.5	No
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	73.6	1.5	1.5	**Yes**
20	Alton Parkway	Laguna Canyon Road to Jenner	69.0	69.7	0.7	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	70.4	1.3	1.5	No
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.4	69.7	0.3	1.5	No
23	Alton Parkway	Banting to Pacifica	68.4	69.3	0.9	1.5	No
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.1	70.3	0.2	1.5	No
25	Alton Parkway	Ada to Technology Drive East	69.2	70.2	1.0	1.5	No
26	Alton Parkway	Von Karman Avenue to Jamboree Road	68.7	69.2	0.5	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.8	69.9	0.1	1.5	No
28	Alton Parkway	Hughes to Morgan	69.5	69.7	0.2	1.5	No

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Table 11

29	Alton Parkway	Morgan to Toledo Way	68.8	69.0	0.2	1.5	No
30	Alton Parkway	San Marino to Culver Drive	68.8	69.0	0.2	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.0	68.6	0.6	1.5	No
32	Alton Parkway	Hospital to Laguna Canyon Road	70.7	71.5	0.8	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.1	71.4	0.3	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.1	68.5	0.4	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	68.0	69.0	1.0	1.5	No
36	Alton Parkway	Fairbanks to Foster	67.5	68.7	1.2	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.2	68.4	0.2	1.5	No
38	Alton Parkway	Pacifica to Meridian	69.7	70.7	1.0	1.5	No
39	Alton Parkway	Bertea to Fairbanks	68.1	68.3	0.2	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	67.5	0.9	1.5	No
41	Alton Parkway	Paseo Westpark to San Marino	67.9	68.0	0.1	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	66.9	67.1	0.2	1.5	No
43	Astor	Lynx to Fairbanks	57.5	66.9	9.4	5.0	**Yes**
44	Astor	Cadence to Lynx	0.0	66.0	66.0	5.0	**Yes**
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	75.4	76.4	1.0	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.7	72.9	0.2	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	74.7	75.1	0.4	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	71.9	72.0	0.1	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.5	71.6	0.1	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.4	71.6	0.2	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	68.5	69.3	0.8	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.1	64.6	0.5	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	61.9	63.0	1.1	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	57.6	59.3	1.7	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	71.7	1.2	1.5	No
56	Barranca Parkway	Banting to Pacifica	70.7	71.8	1.1	1.5	No
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	70.9	1.1	1.5	No
58	Barranca Parkway	Technology Drive West to Ada	70.4	71.5	1.1	1.5	No
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	70.8	1.5	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	71.9	72.0	0.1	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	71.7	0.0	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.6	71.8	0.2	1.5	No

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63	Barranca Parkway	Ada to Alton Parkway	70.2	72.3	2.1	1.5	**Yes**
64	Barranca Parkway	Lake Road to Creek Road	71.2	71.4	0.2	1.5	No
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	74.4	1.1	1.5	No
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	71.1	1.4	1.5	No
67	Barranca Parkway	Lyon to East Yale Loop	71.0	71.1	0.1	1.5	No
68	Barranca Parkway	Creek Road to Lyon	70.9	71.1	0.2	1.5	No
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	71.5	72.4	0.9	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	70.6	2.1	1.5	**Yes**
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.0	72.1	0.1	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	70.4	1.3	1.5	No
73	Barranca Parkway	Jamboree Road to Construction Circle	70.1	70.7	0.6	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	69.8	70.6	0.8	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	69.6	0.8	1.5	No
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	69.7	1.4	1.5	No
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	69.4	0.6	1.5	No
78	Barranca Parkway	Pullman Street to Red Hill Avenue	72.7	73.4	0.7	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	69.4	70.1	0.7	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	69.4	70.1	0.7	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	69.3	70.1	0.8	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.2	69.7	0.5	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	56.1	57.2	1.1	5.0	No
84	Beacon	Ridge Valley to Benchmark	0.0	59.0	59.0	5.0	**Yes**
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	56.7	56.7	5.0	**Yes**
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	68.6	69.7	1.1	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.0	70.2	0.2	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	67.5	68.5	1.0	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	67.5	68.2	0.7	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.5	67.9	0.4	1.5	No
91	Bosque	Cadence to Great Park Boulevard	63.0	64.8	1.8	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	59.7	63.0	3.3	5.0	No
93	Bosque	Benchmark to Cadence	59.7	63.0	3.3	5.0	No
94	Bosque	Great Park Boulevard to Beacon	0.0	56.9	56.9	5.0	**Yes**
95	Bosque	Beacon to S 5th Street	0.0	55.9	55.9	5.0	**Yes**
96	Bryan Avenue	Jamboree Road to Market Place	68.7	68.9	0.2	1.5	No

Table 11

97	Bryan Avenue	Market Place to El Camino Real	68.7	68.9	0.2	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.7	68.9	0.2	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.7	68.9	0.2	1.5	No
100	Bryan Avenue	Eastwood to Jeffrey Road	65.8	66.3	0.5	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.3	0.0	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.3	66.4	0.1	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	65.8	66.0	0.2	1.5	No
104	Cadence	Pusan to Chinon	64.5	64.1	-0.4	3.0	No
105	Cadence	Bosque to Pusan	65.7	64.2	-1.5	1.5	No
106	Cadence	Ridge Valley (O Street) to Bosque	62.6	64.0	1.4	3.0	No
107	Cadence	Chinon to Merit	62.6	59.1	-3.5	3.0	No
108	Cadence	Merit to Astor	0.0	58.6	58.6	5.0	**Yes**
109	California Avenue	University Drive to Academy Way	64.3	66.2	1.9	3.0	No
110	California Avenue	Campus Drive to Harvard Avenue	63.2	64.1	0.9	3.0	No
111	California Avenue	Theory to Bison Avenue	63.1	64.0	0.9	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	70.9	73.0	2.1	1.5	**Yes**
113	Campus Drive	University Drive to Bridge Road	70.1	71.7	1.6	1.5	**Yes**
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	71.3	2.3	1.5	**Yes**
115	Campus Drive	Stanford Court to Berkeley Avenue	70.1	71.0	0.9	1.5	No
116	Campus Drive	California Avenue to Culver Drive	68.9	70.9	2.0	1.5	**Yes**
117	Campus Drive	Berkeley Avenue to Cornell	68.9	69.9	1.0	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	67.5	68.7	1.2	1.5	No
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.5	68.6	0.1	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	68.1	1.3	1.5	No
121	Campus Drive	MacArthur Boulevard to Martin	67.5	68.1	0.6	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	66.8	67.2	0.4	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	67.8	3.3	3.0	**Yes**
124	Chinon	Irvine Boulevard to Cadence	56.6	58.3	1.7	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	55.3	56.0	0.7	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.4	73.7	0.3	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.4	73.9	0.5	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.7	73.9	0.2	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.7	73.9	0.2	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.4	73.6	0.2	1.5	No

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Table 11

131	Culver Drive	San Leandro to Main Street	73.2	73.3	0.1	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	72.7	73.3	0.6	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.1	74.4	0.3	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	72.9	73.2	0.3	1.5	No
135	Culver Drive	Main Street to Alton Parkway	72.7	73.1	0.4	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	72.7	73.0	0.3	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.6	72.9	0.3	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.6	72.8	0.2	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	71.4	72.1	0.7	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.3	72.6	0.3	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	71.9	72.5	0.6	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.1	72.4	0.3	1.5	No
143	Culver Drive	Palo Verde to Campus Drive	71.4	71.6	0.2	1.5	No
144	Culver Drive	University Drive to Sandburg Way	71.5	72.2	0.7	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	72.8	73.3	0.5	1.5	No
146	Culver Drive	Campus Drive to High School	71.6	72.1	0.5	1.5	No
147	Culver Drive	High School to Harvard Avenue	71.6	72.0	0.4	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.5	71.8	0.3	1.5	No
149	Culver Drive	Portola Parkway to Settlers	68.9	71.1	2.2	1.5	**Yes**
150	Culver Drive	Florence to Irvine Boulevard	71.3	71.7	0.4	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.0	70.5	0.5	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.0	70.5	0.5	1.5	No
153	Culver Drive	Settlers to Furrow	0.0	68.3	68.3	5.0	**Yes**
154	Culver Drive	Meadowood to Portola Parkway	68.3	69.0	0.7	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	63.8	7.2	5.0	**Yes**
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	60.7	60.7	5.0	**Yes**
157	East Yale Loop	Alton Parkway to Witherspoon	64.6	65.3	0.7	3.0	No
158	East Yale Loop	Osborn Street to Barranca Parkway	64.3	65.0	0.7	3.0	No
159	East Yale Loop	Yale Avenue to Springbrook South	62.3	64.3	2.0	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	62.3	63.4	1.1	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.3	62.5	0.2	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.3	62.5	0.2	3.0	No
163	Eastwood	Bryan Avenue to Monticello	59.5	60.5	1.0	5.0	No
164	Eastwood	Columbus to Bryan Avenue	58.5	58.8	0.3	5.0	No

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Table 11

165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	66.9	67.0	0.1	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.2	62.4	0.2	3.0	No
167	Fairbanks	Alton Parkway to Astor	61.3	69.7	8.4	3.0	**Yes**
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	66.8	66.8	5.0	**Yes**
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	63.3	64.0	0.7	3.0	No
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	62.8	5.8	5.0	**Yes**
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	59.4	61.6	2.2	5.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	56.8	58.4	1.6	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	74.1	3.6	1.5	**Yes**
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	69.7	5.7	3.0	**Yes**
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	68.0	68.0	5.0	**Yes**
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	67.6	67.6	5.0	**Yes**
177	Harvard Avenue	University Drive to Michelson Drive	71.2	71.8	0.6	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	69.5	70.2	0.7	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	69.4	70.0	0.6	1.5	No
180	Harvard Avenue	Coronado to Main Street	69.3	70.0	0.7	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.4	69.9	0.5	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.3	69.8	0.5	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.5	68.8	0.3	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.5	68.6	0.1	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.4	68.6	0.2	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	67.4	1.9	1.5	**Yes**
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	67.4	1.9	1.5	**Yes**
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.6	67.9	0.3	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.2	67.6	0.4	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	67.7	1.6	1.5	**Yes**
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	68.7	1.9	1.5	**Yes**
192	Harvard Avenue	California Avenue to Berkeley Avenue	66.1	67.0	0.9	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.1	66.9	0.8	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	66.1	67.0	0.9	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	65.9	66.8	0.9	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	58.4	0.2	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	57.5	57.5	5.0	**Yes**
198	Hubble	Irvine Center Drive to Bunsen	55.5	55.7	0.2	5.0	No

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199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.1	72.3	0.2	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.0	72.2	0.2	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	72.9	73.1	0.2	1.5	No
202	Irvine Boulevard	Merit to Alton	71.4	71.6	0.2	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.4	71.6	0.2	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.9	71.2	0.3	1.5	No
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	70.8	71.0	0.2	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.4	70.6	0.2	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.5	70.6	0.1	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	70.6	0.1	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.3	70.5	0.2	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.5	70.7	0.2	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.3	70.5	0.2	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.3	70.4	0.1	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.6	70.8	0.2	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	69.8	70.9	1.1	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to Jeffrey Road	70.2	70.5	0.3	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.2	70.5	0.3	1.5	No
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.1	70.2	0.1	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	69.9	70.1	0.2	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	69.9	70.1	0.2	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.0	70.2	0.2	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.5	69.6	0.1	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.0	69.6	0.6	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.4	68.6	0.2	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	72.5	1.2	1.5	No
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	71.4	1.7	1.5	**Yes**
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	70.9	72.1	1.2	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	71.3	1.6	1.5	**Yes**
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	71.0	1.5	1.5	**Yes**
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	71.0	1.3	1.5	No
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	71.0	1.4	1.5	No
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	70.9	1.5	1.5	**Yes**
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	71.1	1.4	1.5	No

233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	70.4	1.5	1.5	**Yes**
234	Irvine Center Drive	Spectrum to Pacifica	68.9	70.3	1.4	1.5	No
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	70.6	1.4	1.5	No
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	70.2	2.1	1.5	**Yes**
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	69.7	70.3	0.6	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	70.3	1.2	1.5	No
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	70.0	1.9	1.5	**Yes**
240	Irvine Center Drive	Harvard Avenue to Hearthstone	69.2	70.0	0.8	1.5	No
241	Irvine Center Drive	Research to Hubble	67.9	69.8	1.9	1.5	**Yes**
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	69.4	2.5	1.5	**Yes**
243	Irvine Center Drive	Bake Parkway to Muller	67.9	69.9	2.0	1.5	**Yes**
244	Irvine Center Drive	Discovery to Charter	67.3	69.3	2.0	1.5	**Yes**
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	69.7	1.9	1.5	**Yes**
246	Irvine Center Drive	Muller to Tesla	67.7	69.5	1.8	1.5	**Yes**
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	69.0	1.4	1.5	No
248	Irvine Center Drive	Tesla to Scientific Way	67.1	69.2	2.1	1.5	**Yes**
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	68.9	1.7	1.5	**Yes**
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	68.3	1.6	1.5	**Yes**
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	68.2	1.4	1.5	No
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	68.3	1.5	1.5	**Yes**
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	70.8	1.2	1.5	No
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.3	74.5	0.2	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.1	75.4	0.3	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.5	73.8	0.3	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.5	76.9	0.4	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.5	73.6	0.1	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	75.7	76.2	0.5	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	73.6	74.2	0.6	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.5	75.8	0.3	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.4	75.8	0.4	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.1	72.6	0.5	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.3	73.5	0.2	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.2	75.4	0.2	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	72.2	73.2	1.0	1.5	No

Table 11

267	Jamboree Road	Beckman to Barranca Parkway	75.0	75.2	0.2	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	74.9	75.1	0.2	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.5	72.7	0.2	1.5	No
270	Jamboree Road	El Camino Real to West Drive	74.9	75.1	0.2	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	74.9	75.1	0.2	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.5	74.8	0.3	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	71.7	72.5	0.8	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	71.8	72.5	0.7	1.5	No
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.0	70.8	0.8	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.0	79.1	0.1	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.1	78.2	0.1	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.8	77.9	0.1	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	70.9	71.3	0.4	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	71.8	72.2	0.4	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.4	70.8	0.4	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.3	70.5	0.2	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.2	70.6	0.4	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.4	70.5	0.1	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.3	70.4	0.1	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.4	70.5	0.1	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.1	70.3	0.2	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.4	69.7	0.3	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.4	69.7	0.3	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.0	70.4	0.4	1.5	No
291	Jeffrey Road	Grove to Trabuco Road	70.0	70.3	0.3	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.1	68.5	0.4	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	64.0	66.1	2.1	3.0	No
294	Jeffrey Road	Irvine Boulevard to Encore	64.0	65.6	1.6	3.0	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.4	64.8	0.4	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.1	64.7	0.6	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	72.6	73.3	0.7	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	70.0	2.3	1.5	**Yes**
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	68.1	3.3	3.0	**Yes**
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	68.0	2.0	1.5	**Yes**

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Table 11

301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	67.3	3.7	3.0	**Yes**
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	68.0	2.0	1.5	**Yes**
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	66.9	1.4	1.5	No
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	66.2	1.7	3.0	No
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	64.8	66.0	1.2	3.0	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	63.9	65.6	1.7	3.0	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	68.3	69.2	0.9	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	68.3	69.2	0.9	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	65.3	66.2	0.9	1.5	No
310	Lake Road	Alton Parkway to Barranca Parkway	59.0	59.2	0.2	5.0	No
311	Lynx	Irvine Boulevard to Astor	0.0	53.5	53.5	5.0	**Yes**
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.0	76.4	0.4	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	75.8	76.5	0.7	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	75.7	76.4	0.7	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.7	69.9	0.2	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.7	69.8	0.1	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.4	70.5	0.1	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.3	71.8	0.5	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.3	71.9	0.6	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.0	69.6	0.6	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.0	68.5	0.5	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.5	66.8	0.3	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	68.5	69.1	0.6	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	70.2	0.8	1.5	No
325	Main Street	MacArthur Boulevard to Mercantile	69.4	69.9	0.5	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	67.7	68.2	0.5	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.2	67.8	0.6	1.5	No
328	Main Street	McDurmott to Red Hill Avenue	67.9	68.0	0.1	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.7	67.9	0.2	1.5	No
330	Main Street	Jamboree Road to Union	67.4	67.7	0.3	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.0	67.2	0.2	1.5	No
332	Main Street	Siglo to Jamboree Road	67.2	67.4	0.2	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.4	67.6	0.2	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.2	66.4	0.2	1.5	No

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335	Main Street	Harvard Avenue to San Mateo	66.2	66.3	0.1	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	72.1	4.3	1.5	**Yes**
337	Marine Way	Alton Parkway to Bake Parkway	0.0	69.0	69.0	5.0	**Yes**
338	Marine Way	Lynx to Barranca Parkway	0.0	69.4	69.4	5.0	**Yes**
339	Marine Way	County Access to Treble	59.3	65.3	6.0	5.0	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	67.6	5.6	3.0	**Yes**
341	Marine Way	Skyhawk to County Access	59.3	64.9	5.6	5.0	**Yes**
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	66.3	13.6	5.0	**Yes**
343	Marine Way	Treble to Lynx	0.0	67.1	67.1	5.0	**Yes**
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	62.2	63.6	1.4	3.0	No
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	62.1	63.6	1.5	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	61.0	62.4	1.4	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	57.6	59.2	1.6	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.5	59.8	0.3	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.7	54.9	0.2	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	53.5	54.1	0.6	5.0	No
351	Merit	Irvine Boulevard to Cadence	59.3	57.3	-2.0	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	66.7	67.8	1.1	1.5	No
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.3	66.7	0.4	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	66.7	67.8	1.1	1.5	No
355	Michelson Drive	Parkside to Culver Drive	66.2	66.8	0.6	1.5	No
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.3	66.5	0.2	1.5	No
357	Michelson Drive	Carlson to Prince	65.4	67.0	1.6	1.5	**Yes**
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	66.7	67.0	0.3	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.2	66.8	0.6	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	64.9	66.3	1.4	3.0	No
361	Michelson Drive	Jamboree Road to Carlson	68.0	69.5	1.5	1.5	**Yes**
362	Michelson Drive	Teller to Jamboree Road	68.7	69.5	0.8	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.6	66.8	0.2	1.5	No
364	Michelson Drive	Culver Drive to Angell	65.9	66.1	0.2	1.5	No
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	70.7	71.7	1.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	61.4	60.6	-0.8	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	66.4	67.2	0.8	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.1	66.3	0.2	1.5	No

369	Muirlands Boulevard	Wrigley to Bake Parkway	66.1	66.2	0.1	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	65.9	66.7	0.8	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.0	65.2	0.2	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	60.8	62.1	1.3	3.0	No
373	Northwood	Yale Avenue to Savannah	62.3	62.4	0.1	3.0	No
374	Northwood	Goldrush to Yale Avenue	60.5	61.3	0.8	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	67.4	1.2	1.5	No
376	Pacifica	Gateway to Barranca Parkway	63.3	64.6	1.3	3.0	No
377	Pacifica	Alton Parkway to Gateway	61.8	63.2	1.4	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	61.7	63.2	1.5	3.0	No
379	Pacifica	Meridian to Alton Parkway	58.1	60.0	1.9	5.0	No
380	Park Place	Christamon South to Yale Avenue	56.8	57.0	0.2	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	71.3	1.0	1.5	No
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	71.3	1.0	1.5	No
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	71.3	1.7	1.5	**Yes**
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	70.9	1.3	1.5	No
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	70.0	4.5	1.5	**Yes**
386	Portola Parkway	Gatepark to Culver Drive	69.6	70.3	0.7	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	69.6	70.2	0.6	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	69.6	70.1	0.5	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	69.6	70.1	0.5	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	69.6	70.0	0.4	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	69.8	1.2	1.5	No
392	Portola Parkway	Culver Drive to Yale Avenue	68.6	69.4	0.8	1.5	No
393	Portola Parkway	Silverado to Portola Springs	66.5	68.5	2.0	1.5	**Yes**
394	Pusan	Irvine Boulevard to Cadence	54.0	56.1	2.1	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.3	67.6	0.3	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	64.8	65.6	0.8	3.0	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.4	54.9	0.5	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	70.8	71.3	0.5	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.6	69.9	0.3	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.5	69.9	0.4	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.3	69.7	0.4	1.5	No
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.3	69.7	0.4	1.5	No

Table 11

403	Red Hill Avenue	Skypark East to MacArthur Boulevard	70.2	71.0	0.8	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	69.6	70.4	0.8	1.5	No
405	Research Drive	Hubble to Bake Parkway	65.4	69.5	4.1	1.5	**Yes**
406	Research Drive	Scientific to Lake Forest Drive	65.6	67.6	2.0	1.5	**Yes**
407	Research Drive	Bake Parkway to Muller	66.2	66.5	0.3	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	64.9	65.5	0.6	3.0	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	67.4	1.9	1.5	**Yes**
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	65.9	66.5	0.6	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	65.8	66.0	0.2	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.0	58.1	0.1	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	67.7	68.6	0.9	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	67.7	68.2	0.5	1.5	No
415	Rockfield Avenue	Whatney to McLaren	66.3	67.5	1.2	1.5	No
416	Rockfield Avenue	Bake Parkway to Whatney	62.5	63.8	1.3	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.5	62.6	0.1	3.0	No
418	Roosevelt	Jeffrey Road to Vision	65.2	66.1	0.9	1.5	No
419	Roosevelt	Yale Avenue to Van Buren	67.9	68.1	0.2	1.5	No
420	Roosevelt	Vision to Bay Tree	64.5	65.9	1.4	3.0	No
421	Roosevelt	Nimitz to Jeffrey Road	65.2	65.8	0.6	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	63.7	65.6	1.9	3.0	No
423	Royal Oak	Alton Parkway to Eaglecreek	63.8	64.0	0.2	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	71.9	1.2	1.5	No
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	70.6	71.6	1.0	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	73.6	74.4	0.8	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	72.6	1.4	1.5	No
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	74.6	1.9	1.5	**Yes**
429	Sand Canyon Avenue	Trabuco Road to Towngate	70.0	71.3	1.3	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	70.6	1.4	1.5	No
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	72.7	73.8	1.1	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	70.4	1.1	1.5	No
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.3	73.4	0.1	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	72.4	73.4	1.0	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.2	73.5	0.3	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	69.3	70.6	1.3	1.5	No

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437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	69.2	70.0	0.8	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	69.3	1.3	1.5	No
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.6	72.8	0.2	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	69.7	70.5	0.8	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.3	71.6	0.3	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.6	54.9	0.3	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.6	68.8	0.2	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.1	67.3	0.2	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	60.2	7.4	5.0	**Yes**
446	Southwood	Yale Avenue to Colt	60.5	60.5	0.0	3.0	No
447	Southwood	Challenger to Yale Avenue	59.9	60.3	0.4	5.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.4	61.9	0.5	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.0	62.4	0.4	3.0	No
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	56.9	57.0	0.1	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	69.9	2.9	1.5	**Yes**
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	67.1	3.9	3.0	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	66.1	3.3	3.0	**Yes**
454	Technology Drive	Ada to Alton Parkway	57.8	59.9	2.1	5.0	No
455	Toledo Way	Bake Parkway to City Limits	65.5	65.8	0.3	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.5	64.9	0.4	3.0	No
457	Toledo Way	Alton Parkway to Parker	63.9	64.5	0.6	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	66.7	67.0	0.3	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.7	66.9	0.2	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.3	66.6	0.3	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.3	66.5	0.2	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.3	66.5	0.2	1.5	No
463	Trabuco Road	Yale Avenue to Remington	65.7	66.0	0.3	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	65.7	66.0	0.3	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	68.8	68.8	5.0	**Yes**
466	Turtle Rock Drive	Ridgeline to Willowleaf	66.9	67.5	0.6	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.0	67.4	0.4	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.7	66.8	0.1	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	63.9	64.0	0.1	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	63.8	64.0	0.2	3.0	No

471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.3	65.4	0.1	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.2	72.6	0.4	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.1	72.3	0.2	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.1	72.5	0.4	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.0	72.2	0.2	1.5	No
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.3	72.4	0.1	1.5	No
477	University Drive	Mesa to Campus Drive	73.3	74.2	0.9	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	73.3	74.2	0.9	1.5	No
479	University Drive	California Avenue to Mesa	73.3	74.1	0.8	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	69.5	70.3	0.8	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	70.4	71.3	0.9	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	69.2	70.0	0.8	1.5	No
483	University Drive	San Joaquin to Culver Drive	68.7	69.4	0.7	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	68.7	69.4	0.7	1.5	No
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	68.0	5.0	3.0	**Yes**
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	67.6	2.4	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	65.7	2.8	3.0	No
488	Valley Oak Drive	Alton Parkway to Hawkcreek	63.8	65.0	1.2	3.0	No
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	70.6	1.7	1.5	**Yes**
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	70.4	1.6	1.5	**Yes**
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	70.1	0.8	1.5	No
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	69.7	1.3	1.5	No
493	Von Karman Avenue	Main Street to Anchor	69.2	69.9	0.7	1.5	No
494	Von Karman Avenue	Anchor to McGaw Avenue	69.2	69.9	0.7	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.2	69.9	0.7	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	67.8	69.2	1.4	1.5	No
497	Von Karman Avenue	Campus Drive to Martin	67.8	69.2	1.4	1.5	No
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	69.2	1.4	1.5	No
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	70.5	1.6	1.5	**Yes**
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.6	68.9	0.3	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.2	68.5	0.3	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.2	68.4	0.2	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.0	68.1	0.1	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.0	68.1	0.1	1.5	No

Table 11

505	Walnut Avenue	Culver Drive to Franciscan Street	68.0	68.1	0.1	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.0	67.6	0.6	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.0	67.5	0.5	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	66.3	67.0	0.7	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	66.3	67.0	0.7	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	69.6	70.1	0.5	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	67.8	68.4	0.6	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.1	66.8	0.7	1.5	No
513	Warner Avenue	Santa Ynez to Culver Drive	65.1	65.6	0.5	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	64.9	65.1	0.2	3.0	No
515	West Yale Loop	Alton Parkway to Blue Lake North	63.3	64.0	0.7	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.3	63.8	0.5	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	62.7	63.6	0.9	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.7	62.9	0.2	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	61.8	62.1	0.3	3.0	No
520	West Yale Loop	Warner Avenue to Stonecreek South	61.8	62.4	0.6	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	61.7	62.4	0.7	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	61.8	62.0	0.2	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	61.8	62.2	0.4	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.2	63.6	0.4	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.3	61.6	0.3	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.5	68.6	0.1	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.2	67.4	0.2	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.7	70.9	0.2	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	66.9	67.1	0.2	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.5	67.0	0.5	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	65.8	0.8	1.5	No
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.6	65.7	0.1	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.6	65.7	0.1	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.1	65.6	0.5	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.1	65.6	0.5	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	64.8	65.3	0.5	3.0	No
537	Yale Avenue	Bryan Avenue to Monticello	64.8	65.2	0.4	3.0	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.1	64.3	0.2	3.0	No

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Table 11

539	Yale Avenue	University Drive to Royce	57.9	63.0	5.1	5.0	**Yes**
540	Yale Court	Arborwood to Portola Parkway	60.0	60.3	0.3	1.5	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria?

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Table 12:Existing and Conservative Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]			Incremental Noise Level Increase Threshold[3]	
			Existing	Conservative	Project Addition	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	70.8	70.8	5.0	**Yes**
2	Ada	Alton Parkway to Barranca PArkway	60.3	69.3	9.0	3.0	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	74.1	2.8	1.5	**Yes**
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	74.8	2.7	1.5	**Yes**
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.3	71.8	0.5	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	72.0	2.7	1.5	**Yes**
7	Alton Parkway	Jeffrey Road to Royal Oak	70.1	70.9	0.8	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	70.7	7.0	3.0	**Yes**
9	Alton Parkway	Culver Drive to West Yale Loop	70.4	70.7	0.3	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.3	70.7	0.4	1.5	No
11	Alton Parkway	Technology Drive West to Ada	70.2	72.6	2.4	1.5	**Yes**
12	Alton Parkway	Creek Road to East Yale Loop	70.1	70.6	0.5	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	70.5	2.4	1.5	**Yes**
14	Alton Parkway	Lake Road to Creek Road	70.1	70.4	0.3	1.5	No
15	Alton Parkway	Telemetry to Banting	69.0	70.4	1.4	1.5	No
16	Alton Parkway	Irvine Boulevard to Commercentre	70.3	70.8	0.5	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.0	70.4	1.4	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	71.2	2.6	1.5	**Yes**
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	73.7	1.6	1.5	**Yes**
20	Alton Parkway	Laguna Canyon Road to Jenner	69.0	70.3	1.3	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	71.2	2.1	1.5	**Yes**
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.4	70.1	0.7	1.5	No
23	Alton Parkway	Banting to Pacifica	68.4	70.0	1.6	1.5	**Yes**
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.1	70.9	0.8	1.5	No
25	Alton Parkway	Ada to Technology Drive East	69.2	70.7	1.5	1.5	**Yes**
26	Alton Parkway	Von Karman Avenue to Jamboree Road	68.7	69.7	1.0	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.8	69.9	0.1	1.5	No
28	Alton Parkway	Hughes to Morgan	69.5	69.8	0.3	1.5	No
29	Alton Parkway	Morgan to Toledo Way	68.8	69.1	0.3	1.5	No

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Table 12

30	Alton Parkway	San Marino to Culver Drive	68.8	69.2	0.4	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.0	69.0	1.0	1.5	No
32	Alton Parkway	Hospital to Laguna Canyon Road	70.7	72.0	1.3	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.1	71.8	0.7	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.1	68.8	0.7	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	68.0	68.7	0.7	1.5	No
36	Alton Parkway	Fairbanks to Foster	67.5	68.5	1.0	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.2	68.4	0.2	1.5	No
38	Alton Parkway	Pacifica to Meridian	69.7	71.7	2.0	1.5	**Yes**
39	Alton Parkway	Bertea to Fairbanks	68.1	68.3	0.2	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	68.3	1.7	1.5	**Yes**
41	Alton Parkway	Paseo Westpark to San Marino	67.9	68.3	0.4	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	66.9	67.7	0.8	1.5	No
43	Astor	Lynx to Fairbanks	57.5	67.1	9.6	5.0	**Yes**
44	Astor	Cadence to Lynx	0.0	65.9	65.9	5.0	**Yes**
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	75.4	76.7	1.3	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.7	73.0	0.3	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	74.7	75.1	0.4	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	71.9	72.1	0.2	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.5	71.7	0.2	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.4	71.6	0.2	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	68.5	69.6	1.1	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.1	64.9	0.8	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	61.9	63.4	1.5	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	57.6	60.3	2.7	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	73.3	2.8	1.5	**Yes**
56	Barranca Parkway	Banting to Pacifica	70.7	72.8	2.1	1.5	**Yes**
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	73.0	3.2	1.5	**Yes**
58	Barranca Parkway	Technology Drive West to Ada	70.4	72.7	2.3	1.5	**Yes**
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	72.6	3.3	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	71.9	72.3	0.4	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	72.2	0.5	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.6	72.1	0.5	1.5	No
63	Barranca Parkway	Ada to Alton Parkway	70.2	72.1	1.9	1.5	**Yes**
64	Barranca Parkway	Lake Road to Creek Road	71.2	71.8	0.6	1.5	No

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65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	74.7	1.4	1.5	No
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	71.6	1.9	1.5	**Yes**
67	Barranca Parkway	Lyon to East Yale Loop	71.0	71.6	0.6	1.5	No
68	Barranca Parkway	Creek Road to Lyon	70.9	71.5	0.6	1.5	No
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	71.5	72.8	1.3	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	71.1	2.6	1.5	**Yes**
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.0	72.5	0.5	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	70.8	1.7	1.5	**Yes**
73	Barranca Parkway	Jamboree Road to Construction Circle	70.1	71.2	1.1	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	69.8	71.0	1.2	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	70.5	1.7	1.5	**Yes**
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	70.4	2.1	1.5	**Yes**
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	70.4	1.6	1.5	**Yes**
78	Barranca Parkway	Pullman Street to Red Hill Avenue	72.7	73.7	1.0	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	69.4	70.6	1.2	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	69.4	70.6	1.2	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	69.3	70.6	1.3	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.2	70.2	1.0	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	56.1	57.1	1.0	5.0	No
84	Beacon	Ridge Valley to Benchmark	0.0	59.7	59.7	5.0	**Yes**
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	56.5	56.5	5.0	**Yes**
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	68.6	69.6	1.0	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.0	70.3	0.3	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	67.5	68.6	1.1	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	67.5	68.2	0.7	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.5	68.0	0.5	1.5	No
91	Bosque	Cadence to Great Park Boulevard	63.0	65.2	2.2	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	59.7	63.6	3.9	5.0	No
93	Bosque	Benchmark to Cadence	59.7	63.2	3.5	5.0	No
94	Bosque	Great Park Boulevard to Beacon	0.0	56.8	56.8	5.0	**Yes**
95	Bosque	Beacon to S 5th Street	0.0	56.2	56.2	5.0	**Yes**
96	Bryan Avenue	Jamboree Road to Market Place	68.7	69.0	0.3	1.5	No
97	Bryan Avenue	Market Place to El Camino Real	68.7	68.9	0.2	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.7	68.8	0.1	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.7	68.8	0.1	1.5	No

Table 12

100	Bryan Avenue	Eastwood to Jeffrey Road	65.8	67.1	1.3	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.8	0.5	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.3	66.7	0.4	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	65.8	66.7	0.9	1.5	No
104	Cadence	Pusan to Chinon	64.5	65.6	1.1	3.0	No
105	Cadence	Bosque to Pusan	65.7	65.3	-0.4	1.5	No
106	Cadence	Ridge Valley (O Street) to Bosque	62.6	64.0	1.4	3.0	No
107	Cadence	Chinon to Merit	62.6	62.3	-0.3	3.0	No
108	Cadence	Merit to Astor	0.0	59.4	59.4	5.0	**Yes**
109	California Avenue	University Drive to Academy Way	64.3	66.2	1.9	3.0	No
110	California Avenue	Campus Drive to Harvard Avenue	63.2	64.2	1.0	3.0	No
111	California Avenue	Theory to Bison Avenue	63.1	63.9	0.8	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	70.9	73.2	2.3	1.5	**Yes**
113	Campus Drive	University Drive to Bridge Road	70.1	71.8	1.7	1.5	**Yes**
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	71.5	2.5	1.5	**Yes**
115	Campus Drive	Stanford Court to Berkeley Avenue	70.1	71.1	1.0	1.5	No
116	Campus Drive	California Avenue to Culver Drive	68.9	70.9	2.0	1.5	**Yes**
117	Campus Drive	Berkeley Avenue to Cornell	68.9	70.0	1.1	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	67.5	69.1	1.6	1.5	**Yes**
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.5	68.7	0.2	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	68.4	1.6	1.5	**Yes**
121	Campus Drive	MacArthur Boulevard to Martin	67.5	68.2	0.7	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	66.8	67.5	0.7	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	67.9	3.4	3.0	**Yes**
124	Chinon	Irvine Boulevard to Cadence	56.6	58.8	2.2	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	55.3	56.3	1.0	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.4	74.0	0.6	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.4	73.9	0.5	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.7	73.9	0.2	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.7	73.8	0.1	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.4	73.6	0.2	1.5	No
131	Culver Drive	San Leandro to Main Street	73.2	73.3	0.1	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	72.7	73.4	0.7	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.1	74.2	0.1	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	72.9	73.2	0.3	1.5	No

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Table 12

135	Culver Drive	Main Street to Alton Parkway	72.7	73.1	0.4	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	72.7	73.0	0.3	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.6	72.9	0.3	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.6	72.8	0.2	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	71.4	72.0	0.6	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.3	72.5	0.2	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	71.9	72.5	0.6	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.1	72.4	0.3	1.5	No
143	Culver Drive	Palo Verde to Campus Drive	71.4	71.6	0.2	1.5	No
144	Culver Drive	University Drive to Sandburg Way	71.5	72.2	0.7	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	72.8	73.2	0.4	1.5	No
146	Culver Drive	Campus Drive to High School	71.6	72.1	0.5	1.5	No
147	Culver Drive	High School to Harvard Avenue	71.6	72.0	0.4	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.5	71.8	0.3	1.5	No
149	Culver Drive	Portola Parkway to Settlers	68.9	71.2	2.3	1.5	**Yes**
150	Culver Drive	Florence to Irvine Boulevard	71.3	71.7	0.4	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.0	70.5	0.5	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.0	70.4	0.4	1.5	No
153	Culver Drive	Settlers to Furrow	0.0	68.5	68.5	5.0	**Yes**
154	Culver Drive	Meadowood to Portola Parkway	68.3	69.0	0.7	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	65.5	8.9	5.0	**Yes**
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	63.6	63.6	5.0	**Yes**
157	East Yale Loop	Alton Parkway to Witherspoon	64.6	65.6	1.0	3.0	No
158	East Yale Loop	Osborn Street to Barranca Parkway	64.3	65.4	1.1	3.0	No
159	East Yale Loop	Yale Avenue to Springbrook South	62.3	65.0	2.7	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	62.3	63.6	1.3	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.3	62.8	0.5	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.3	62.4	0.1	3.0	No
163	Eastwood	Bryan Avenue to Monticello	59.5	60.8	1.3	5.0	No
164	Eastwood	Columbus to Bryan Avenue	58.5	58.8	0.3	5.0	No
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	66.9	67.1	0.2	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.2	62.4	0.2	3.0	No
167	Fairbanks	Alton Parkway to Astor	61.3	69.8	8.5	3.0	**Yes**
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	66.9	66.9	5.0	**Yes**
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	63.3	64.0	0.7	3.0	No

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Table 12

170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	63.5	6.5	5.0	**Yes**
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	59.4	62.3	2.9	5.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	56.8	59.2	2.4	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	74.6	4.1	1.5	**Yes**
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	70.3	6.3	3.0	**Yes**
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	69.0	69.0	5.0	**Yes**
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	68.4	68.4	5.0	**Yes**
177	Harvard Avenue	University Drive to Michelson Drive	71.2	72.0	0.8	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	69.5	70.4	0.9	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	69.4	70.2	0.8	1.5	No
180	Harvard Avenue	Coronado to Main Street	69.3	70.1	0.8	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.4	70.1	0.7	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.3	70.0	0.7	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.5	68.8	0.3	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.5	68.8	0.3	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.4	68.6	0.2	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	67.5	2.0	1.5	**Yes**
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	67.4	1.9	1.5	**Yes**
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.6	67.9	0.3	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.2	67.9	0.7	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	67.8	1.7	1.5	**Yes**
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	68.8	2.0	1.5	**Yes**
192	Harvard Avenue	California Avenue to Berkeley Avenue	66.1	67.4	1.3	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.1	67.3	1.2	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	66.1	67.2	1.1	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	65.9	66.7	0.8	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	58.2	0.0	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	57.5	57.5	5.0	**Yes**
198	Hubble	Irvine Center Drive to Bunsen	55.5	55.9	0.4	5.0	No
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.1	72.2	0.1	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.0	72.2	0.2	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	72.9	73.0	0.1	1.5	No
202	Irvine Boulevard	Merit to Alton	71.4	71.6	0.2	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.4	71.6	0.2	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.9	71.1	0.2	1.5	No

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205	Irvine Boulevard	Pusan Way to Chinon (B Street)	70.8	71.0	0.2	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.4	71.2	0.8	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.5	71.2	0.7	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	71.1	0.6	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.3	71.1	0.8	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.5	71.1	0.6	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.3	71.0	0.7	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.3	71.0	0.7	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.6	70.9	0.3	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	69.8	70.5	0.7	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to Jeffrey Road	70.2	70.7	0.5	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.2	70.5	0.3	1.5	No
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.1	70.6	0.5	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	69.9	70.5	0.6	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	69.9	70.4	0.5	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.0	70.2	0.2	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.5	70.0	0.5	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.0	69.6	0.6	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.4	68.6	0.2	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	72.7	1.4	1.5	No
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	72.0	2.3	1.5	**Yes**
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	70.9	72.2	1.3	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	71.9	2.2	1.5	**Yes**
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	71.7	2.2	1.5	**Yes**
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	71.6	1.9	1.5	**Yes**
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	71.6	2.0	1.5	**Yes**
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	71.6	2.2	1.5	**Yes**
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	71.5	1.8	1.5	**Yes**
233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	71.3	2.4	1.5	**Yes**
234	Irvine Center Drive	Spectrum to Pacifica	68.9	71.3	2.4	1.5	**Yes**
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	71.0	1.8	1.5	**Yes**
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	70.9	2.8	1.5	**Yes**
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	69.7	70.6	0.9	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	70.7	1.6	1.5	**Yes**
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	70.7	2.6	1.5	**Yes**

240	Irvine Center Drive	Harvard Avenue to Hearthstone	69.2	70.3	1.1	1.5	No
241	Irvine Center Drive	Research to Hubble	67.9	69.8	1.9	1.5	**Yes**
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	70.1	3.2	1.5	**Yes**
243	Irvine Center Drive	Bake Parkway to Muller	67.9	69.7	1.8	1.5	**Yes**
244	Irvine Center Drive	Discovery to Charter	67.3	70.2	2.9	1.5	**Yes**
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	69.5	1.7	1.5	**Yes**
246	Irvine Center Drive	Muller to Tesla	67.7	69.3	1.6	1.5	**Yes**
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	69.4	1.8	1.5	**Yes**
248	Irvine Center Drive	Tesla to Scientific Way	67.1	68.9	1.8	1.5	**Yes**
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	68.7	1.5	1.5	**Yes**
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	68.8	2.1	1.5	**Yes**
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	68.8	2.0	1.5	**Yes**
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	68.8	2.0	1.5	**Yes**
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	71.0	1.4	1.5	No
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.3	74.5	0.2	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.1	75.6	0.5	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.5	73.9	0.4	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.5	77.0	0.5	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.5	73.6	0.1	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	75.7	76.4	0.7	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	73.6	74.4	0.8	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.5	76.0	0.5	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.4	76.0	0.6	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.1	73.0	0.9	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.3	73.9	0.6	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.2	75.6	0.4	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	72.2	73.5	1.3	1.5	No
267	Jamboree Road	Beckman to Barranca Parkway	75.0	75.3	0.3	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	74.9	75.1	0.2	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.5	73.2	0.7	1.5	No
270	Jamboree Road	El Camino Real to West Drive	74.9	75.0	0.1	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	74.9	74.9	0.0	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.5	74.6	0.1	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	71.7	72.8	1.1	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	71.8	72.8	1.0	1.5	No

275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.0	70.7	0.7	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.0	79.2	0.2	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.1	78.3	0.2	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.8	78.0	0.2	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	70.9	71.4	0.5	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	71.8	72.3	0.5	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.4	70.9	0.5	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.3	70.9	0.6	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.2	70.7	0.5	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.4	70.9	0.5	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.3	70.7	0.4	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.4	70.8	0.4	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.1	70.5	0.4	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.4	69.6	0.2	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.4	69.6	0.2	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.0	70.4	0.4	1.5	No
291	Jeffrey Road	Grove to Trabuco Road	70.0	70.2	0.2	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.1	68.5	0.4	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	64.0	65.8	1.8	3.0	No
294	Jeffrey Road	Irvine Boulevard to Encore	64.0	65.5	1.5	3.0	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.4	64.6	0.2	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.1	64.3	0.2	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	72.6	73.3	0.7	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	69.9	2.2	1.5	**Yes**
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	69.5	4.7	3.0	**Yes**
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	67.9	1.9	1.5	**Yes**
301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	69.0	5.4	3.0	**Yes**
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	67.9	1.9	1.5	**Yes**
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	67.0	1.5	1.5	**Yes**
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	67.5	3.0	3.0	**Yes**
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	64.8	66.3	1.5	3.0	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	63.9	66.2	2.3	3.0	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	68.3	69.4	1.1	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	68.3	69.3	1.0	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	65.3	66.4	1.1	1.5	No

Table 12

310	Lake Road	Alton Parkway to Barranca Parkway	59.0	59.2	0.2	5.0	No
311	Lynx	Irvine Boulevard to Astor	0.0	53.2	53.2	5.0	**Yes**
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.0	76.7	0.7	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	75.8	76.7	0.9	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	75.7	76.6	0.9	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.7	69.9	0.2	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.7	69.8	0.1	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.4	70.5	0.1	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.3	72.2	0.9	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.3	72.1	0.8	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.0	69.5	0.5	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.0	68.3	0.3	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.5	67.1	0.6	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	68.5	69.3	0.8	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	70.9	1.5	1.5	**Yes**
325	Main Street	MacArthur Boulevard to Mercantile	69.4	70.3	0.9	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	67.7	68.4	0.7	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.2	68.5	1.3	1.5	No
328	Main Street	McDurmott to Red Hill Avenue	67.9	68.1	0.2	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.7	68.0	0.3	1.5	No
330	Main Street	Jamboree Road to Union	67.4	67.8	0.4	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.0	67.2	0.2	1.5	No
332	Main Street	Siglo to Jamboree Road	67.2	67.7	0.5	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.4	67.5	0.1	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.2	66.3	0.1	1.5	No
335	Main Street	Harvard Avenue to San Mateo	66.2	66.3	0.1	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	72.3	4.5	1.5	**Yes**
337	Marine Way	Alton Parkway to Bake Parkway	0.0	69.4	69.4	5.0	**Yes**
338	Marine Way	Lynx to Barranca Parkway	0.0	69.3	69.3	5.0	**Yes**
339	Marine Way	County Access to Treble	59.3	68.5	9.2	5.0	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	68.3	6.3	3.0	**Yes**
341	Marine Way	Skyhawk to County Access	59.3	67.4	8.1	5.0	**Yes**
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	66.8	14.1	5.0	**Yes**
343	Marine Way	Treble to Lynx	0.0	66.5	66.5	5.0	**Yes**
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	62.2	64.5	2.3	3.0	No

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Table 12

345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	62.1	64.3	2.2	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	61.0	62.4	1.4	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	57.6	59.6	2.0	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.5	59.8	0.3	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.7	55.6	0.9	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	53.5	54.7	1.2	5.0	No
351	Merit	Irvine Boulevard to Cadence	59.3	58.0	-1.3	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	66.7	68.3	1.6	1.5	**Yes**
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.3	67.2	0.9	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	66.7	68.2	1.5	1.5	**Yes**
355	Michelson Drive	Parkside to Culver Drive	66.2	67.8	1.6	1.5	**Yes**
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.3	66.9	0.6	1.5	No
357	Michelson Drive	Carlson to Prince	65.4	67.3	1.9	1.5	**Yes**
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	66.7	67.5	0.8	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.2	66.8	0.6	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	64.9	66.8	1.9	3.0	No
361	Michelson Drive	Jamboree Road to Carlson	68.0	69.6	1.6	1.5	**Yes**
362	Michelson Drive	Teller to Jamboree Road	68.7	69.6	0.9	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.6	67.1	0.5	1.5	No
364	Michelson Drive	Culver Drive to Angell	65.9	66.3	0.4	1.5	No
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	70.7	71.7	1.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	61.4	61.1	-0.3	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	66.4	67.2	0.8	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.1	66.3	0.2	1.5	No
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.1	66.3	0.2	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	65.9	66.6	0.7	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.0	65.1	0.1	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	60.8	61.8	1.0	3.0	No
373	Northwood	Yale Avenue to Savannah	62.3	62.5	0.2	3.0	No
374	Northwood	Goldrush to Yale Avenue	60.5	61.5	1.0	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	69.7	3.5	1.5	**Yes**
376	Pacifica	Gateway to Barranca Parkway	63.3	65.3	2.0	3.0	No
377	Pacifica	Alton Parkway to Gateway	61.8	64.1	2.3	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	61.7	62.7	1.0	3.0	No
379	Pacifica	Meridian to Alton Parkway	58.1	60.9	2.8	5.0	No

Table 12

380	Park Place	Christamon South to Yale Avenue	56.8	57.0	0.2	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	71.7	1.4	1.5	No
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	71.7	1.4	1.5	No
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	71.4	1.8	1.5	**Yes**
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	71.1	1.5	1.5	**Yes**
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	70.1	4.6	1.5	**Yes**
386	Portola Parkway	Gatepark to Culver Drive	69.6	70.7	1.1	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	69.6	70.7	1.1	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	69.6	70.6	1.0	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	69.6	70.5	0.9	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	69.6	70.5	0.9	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	70.2	1.6	1.5	**Yes**
392	Portola Parkway	Culver Drive to Yale Avenue	68.6	69.7	1.1	1.5	No
393	Portola Parkway	Silverado to Portola Springs	66.5	68.6	2.1	1.5	**Yes**
394	Pusan	Irvine Boulevard to Cadence	54.0	56.2	2.2	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.3	67.5	0.2	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	64.8	65.4	0.6	3.0	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.4	54.9	0.5	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	70.8	71.6	0.8	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.6	70.2	0.6	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.5	70.1	0.6	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.3	69.9	0.6	1.5	No
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.3	69.8	0.5	1.5	No
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	70.2	71.4	1.2	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	69.6	70.8	1.2	1.5	No
405	Research Drive	Hubble to Bake Parkway	65.4	69.6	4.2	1.5	**Yes**
406	Research Drive	Scientific to Lake Forest Drive	65.6	67.4	1.8	1.5	**Yes**
407	Research Drive	Bake Parkway to Muller	66.2	66.7	0.5	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	64.9	65.7	0.8	3.0	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	67.3	1.8	1.5	**Yes**
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	65.9	66.4	0.5	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	65.8	66.0	0.2	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.0	58.1	0.1	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	67.7	68.8	1.1	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	67.7	68.5	0.8	1.5	No

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Table 12

415	Rockfield Avenue	Whatney to McLaren	66.3	67.7	1.4	1.5	No
416	Rockfield Avenue	Bake Parkway to Whatney	62.5	64.3	1.8	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.5	63.1	0.6	3.0	No
418	Roosevelt	Jeffrey Road to Vision	65.2	66.6	1.4	1.5	No
419	Roosevelt	Yale Avenue to Van Buren	67.9	68.3	0.4	1.5	No
420	Roosevelt	Vision to Bay Tree	64.5	66.3	1.8	3.0	No
421	Roosevelt	Nimitz to Jeffrey Road	65.2	65.9	0.7	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	63.7	65.6	1.9	3.0	No
423	Royal Oak	Alton Parkway to Eaglecreek	63.8	64.0	0.2	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	72.2	1.5	1.5	**Yes**
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	70.6	72.0	1.4	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	73.6	74.7	1.1	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	72.7	1.5	1.5	**Yes**
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	74.6	1.9	1.5	**Yes**
429	Sand Canyon Avenue	Trabuco Road to Towngate	70.0	71.0	1.0	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	70.9	1.7	1.5	**Yes**
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	72.7	73.9	1.2	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	70.8	1.5	1.5	**Yes**
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.3	73.5	0.2	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	72.4	73.6	1.2	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.2	73.5	0.3	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	69.3	70.3	1.0	1.5	No
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	69.2	70.2	1.0	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	69.2	1.2	1.5	No
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.6	72.8	0.2	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	69.7	70.8	1.1	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.3	71.8	0.5	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.6	55.0	0.4	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.6	69.3	0.7	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.1	67.7	0.6	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	59.6	6.8	5.0	**Yes**
446	Southwood	Yale Avenue to Colt	60.5	60.6	0.1	3.0	No
447	Southwood	Challenger to Yale Avenue	59.9	60.4	0.5	5.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.4	62.0	0.6	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.0	62.5	0.5	3.0	No

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450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	56.9	57.7	0.8	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	70.8	3.8	1.5	**Yes**
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	69.6	6.4	3.0	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	69.4	6.6	3.0	**Yes**
454	Technology Drive	Ada to Alton Parkway	57.8	63.7	5.9	5.0	**Yes**
455	Toledo Way	Bake Parkway to City Limits	65.5	65.6	0.1	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.5	64.7	0.2	3.0	No
457	Toledo Way	Alton Parkway to Parker	63.9	64.5	0.6	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	66.7	67.2	0.5	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.7	67.1	0.4	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.3	66.8	0.5	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.3	66.8	0.5	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.3	66.7	0.4	1.5	No
463	Trabuco Road	Yale Avenue to Remington	65.7	66.4	0.7	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	65.7	66.1	0.4	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	68.7	68.7	5.0	**Yes**
466	Turtle Rock Drive	Ridgeline to Willowleaf	66.9	67.9	1.0	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.0	67.8	0.8	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.7	67.1	0.4	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	63.9	64.0	0.1	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	63.8	64.1	0.3	3.0	No
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.3	65.5	0.2	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.2	73.0	0.8	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.1	72.6	0.5	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.1	72.9	0.8	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.0	72.4	0.4	1.5	No
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.3	72.7	0.4	1.5	No
477	University Drive	Mesa to Campus Drive	73.3	74.5	1.2	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	73.3	74.4	1.1	1.5	No
479	University Drive	California Avenue to Mesa	73.3	74.4	1.1	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	69.5	70.7	1.2	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	70.4	71.6	1.2	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	69.2	70.2	1.0	1.5	No
483	University Drive	San Joaquin to Culver Drive	68.7	69.8	1.1	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	68.7	69.8	1.1	1.5	No

485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	68.1	5.1	3.0	**Yes**
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	69.6	4.4	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	67.1	4.2	3.0	**Yes**
488	Valley Oak Drive	Alton Parkway to Hawkcreek	63.8	64.9	1.1	3.0	No
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	71.0	2.1	1.5	**Yes**
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	70.9	2.1	1.5	**Yes**
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	70.8	1.5	1.5	**Yes**
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	70.4	2.0	1.5	**Yes**
493	Von Karman Avenue	Main Street to Anchor	69.2	70.7	1.5	1.5	**Yes**
494	Von Karman Avenue	Anchor to McGaw Avenue	69.2	70.5	1.3	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.2	70.3	1.1	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	67.8	69.6	1.8	1.5	**Yes**
497	Von Karman Avenue	Campus Drive to Martin	67.8	69.5	1.7	1.5	**Yes**
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	69.5	1.7	1.5	**Yes**
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	70.9	2.0	1.5	**Yes**
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.6	69.1	0.5	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.2	68.8	0.6	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.2	68.8	0.6	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.0	68.5	0.5	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.0	68.5	0.5	1.5	No
505	Walnut Avenue	Culver Drive to Franciscan Street	68.0	68.4	0.4	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.0	68.0	1.0	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.0	67.9	0.9	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	66.3	67.3	1.0	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	66.3	67.2	0.9	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	69.6	70.2	0.6	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	67.8	68.6	0.8	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.1	67.1	1.0	1.5	No
513	Warner Avenue	Santa Ynez to Culver Drive	65.1	66.2	1.1	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	64.9	65.8	0.9	3.0	No
515	West Yale Loop	Alton Parkway to Blue Lake North	63.3	64.0	0.7	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.3	63.9	0.6	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	62.7	64.0	1.3	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.7	62.8	0.1	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	61.8	63.2	1.4	3.0	No

Table 12

520	West Yale Loop	Warner Avenue to Stonecreek South	61.8	62.7	0.9	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	61.7	62.4	0.7	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	61.8	62.6	0.8	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	61.8	62.4	0.6	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.2	63.5	0.3	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.3	61.6	0.3	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.5	68.6	0.1	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.2	67.3	0.1	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.7	71.1	0.4	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	66.9	67.1	0.2	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.5	66.9	0.4	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	66.5	1.5	1.5	**Yes**
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.6	65.7	0.1	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.6	65.7	0.1	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.1	65.6	0.5	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.1	65.4	0.3	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	64.8	65.1	0.3	3.0	No
537	Yale Avenue	Bryan Avenue to Monticello	64.8	65.0	0.2	3.0	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.1	64.2	0.1	3.0	No
539	Yale Avenue	University Drive to Royce	57.9	63.6	5.7	5.0	**Yes**
540	Yale Court	Arborwood to Portola Parkway	60.0	60.4	0.4	1.5	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria?

Table 13:Existing and Preferred Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]			Incremental Noise Level Increase Threshold[3]	
			Existing	Preferred	Project Addition	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	70.8	70.8	5.0	**Yes**
2	Ada	Alton Parkway to Barranca PArkway	60.3	69.2	8.9	3.0	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	73.9	2.6	1.5	**Yes**
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	74.5	2.4	1.5	**Yes**
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.3	71.8	0.5	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	71.7	2.4	1.5	**Yes**
7	Alton Parkway	Jeffrey Road to Royal Oak	70.1	70.7	0.6	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	70.6	6.9	3.0	**Yes**
9	Alton Parkway	Culver Drive to West Yale Loop	70.4	70.6	0.2	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.3	70.6	0.3	1.5	No
11	Alton Parkway	Technology Drive West to Ada	70.2	72.4	2.2	1.5	**Yes**
12	Alton Parkway	Creek Road to East Yale Loop	70.1	70.5	0.4	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	70.4	2.3	1.5	**Yes**
14	Alton Parkway	Lake Road to Creek Road	70.1	70.3	0.2	1.5	No
15	Alton Parkway	Telemetry to Banting	69.0	70.3	1.3	1.5	No
16	Alton Parkway	Irvine Boulevard to Commercentre	70.3	70.8	0.5	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.0	70.3	1.3	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	71.0	2.4	1.5	**Yes**
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	73.7	1.6	1.5	**Yes**
20	Alton Parkway	Laguna Canyon Road to Jenner	69.0	70.2	1.2	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	70.8	1.7	1.5	**Yes**
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.4	70.0	0.6	1.5	No
23	Alton Parkway	Banting to Pacifica	68.4	69.9	1.5	1.5	**Yes**
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.1	70.3	0.2	1.5	No
25	Alton Parkway	Ada to Technology Drive East	69.2	70.3	1.1	1.5	No
26	Alton Parkway	Von Karman Avenue to Jamboree Road	68.7	69.6	0.9	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.8	70.0	0.2	1.5	No
28	Alton Parkway	Hughes to Morgan	69.5	69.8	0.3	1.5	No
29	Alton Parkway	Morgan to Toledo Way	68.8	69.0	0.2	1.5	No

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Table 13

30	Alton Parkway	San Marino to Culver Drive	68.8	69.1	0.3	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.0	68.9	0.9	1.5	No
32	Alton Parkway	Hospital to Laguna Canyon Road	70.7	71.9	1.2	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.1	71.8	0.7	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.1	68.7	0.6	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	68.0	68.7	0.7	1.5	No
36	Alton Parkway	Fairbanks to Foster	67.5	68.4	0.9	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.2	68.4	0.2	1.5	No
38	Alton Parkway	Pacifica to Meridian	69.7	71.5	1.8	1.5	**Yes**
39	Alton Parkway	Bertea to Fairbanks	68.1	68.3	0.2	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	68.2	1.6	1.5	**Yes**
41	Alton Parkway	Paseo Westpark to San Marino	67.9	68.1	0.2	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	66.9	67.5	0.6	1.5	No
43	Astor	Lynx to Fairbanks	57.5	67.0	9.5	5.0	**Yes**
44	Astor	Cadence to Lynx	0.0	65.8	65.8	5.0	**Yes**
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	75.4	76.6	1.2	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.7	72.9	0.2	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	74.7	75.0	0.3	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	71.9	72.0	0.1	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.5	71.6	0.1	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.4	71.6	0.2	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	68.5	69.5	1.0	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.1	64.8	0.7	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	61.9	63.4	1.5	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	57.6	60.2	2.6	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	73.1	2.6	1.5	**Yes**
56	Barranca Parkway	Banting to Pacifica	70.7	72.7	2.0	1.5	**Yes**
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	72.6	2.8	1.5	**Yes**
58	Barranca Parkway	Technology Drive West to Ada	70.4	72.6	2.2	1.5	**Yes**
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	72.3	3.0	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	71.9	72.2	0.3	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	72.1	0.4	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.6	72.0	0.4	1.5	No
63	Barranca Parkway	Ada to Alton Parkway	70.2	72.0	1.8	1.5	**Yes**
64	Barranca Parkway	Lake Road to Creek Road	71.2	71.7	0.5	1.5	No

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Table 13

65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	74.7	1.4	1.5	No
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	71.6	1.9	1.5	**Yes**
67	Barranca Parkway	Lyon to East Yale Loop	71.0	71.5	0.5	1.5	No
68	Barranca Parkway	Creek Road to Lyon	70.9	71.4	0.5	1.5	No
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	71.5	72.7	1.2	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	70.8	2.3	1.5	**Yes**
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.0	72.3	0.3	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	70.6	1.5	1.5	**Yes**
73	Barranca Parkway	Jamboree Road to Construction Circle	70.1	71.0	0.9	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	69.8	70.9	1.1	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	70.2	1.4	1.5	No
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	70.2	1.9	1.5	**Yes**
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	70.1	1.3	1.5	No
78	Barranca Parkway	Pullman Street to Red Hill Avenue	72.7	73.6	0.9	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	69.4	70.5	1.1	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	69.4	70.5	1.1	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	69.3	70.4	1.1	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.2	70.1	0.9	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	56.1	57.2	1.1	5.0	No
84	Beacon	Ridge Valley to Benchmark	0.0	59.6	59.6	5.0	**Yes**
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	56.5	56.5	5.0	**Yes**
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	68.6	69.6	1.0	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.0	70.3	0.3	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	67.5	68.6	1.1	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	67.5	68.2	0.7	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.5	68.0	0.5	1.5	No
91	Bosque	Cadence to Great Park Boulevard	63.0	65.2	2.2	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	59.7	63.5	3.8	5.0	No
93	Bosque	Benchmark to Cadence	59.7	63.1	3.4	5.0	No
94	Bosque	Great Park Boulevard to Beacon	0.0	56.7	56.7	5.0	**Yes**
95	Bosque	Beacon to S 5th Street	0.0	56.1	56.1	5.0	**Yes**
96	Bryan Avenue	Jamboree Road to Market Place	68.7	68.9	0.2	1.5	No
97	Bryan Avenue	Market Place to El Camino Real	68.7	68.9	0.2	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.7	68.9	0.2	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.7	68.8	0.1	1.5	No

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Table 13

100	Bryan Avenue	Eastwood to Jeffrey Road	65.8	66.9	1.1	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.6	0.3	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.3	66.6	0.3	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	65.8	66.4	0.6	1.5	No
104	Cadence	Pusan to Chinon	64.5	65.6	1.1	3.0	No
105	Cadence	Bosque to Pusan	65.7	65.3	-0.4	1.5	No
106	Cadence	Ridge Valley (O Street) to Bosque	62.6	63.9	1.3	3.0	No
107	Cadence	Chinon to Merit	62.6	62.2	-0.4	3.0	No
108	Cadence	Merit to Astor	0.0	59.4	59.4	5.0	**Yes**
109	California Avenue	University Drive to Academy Way	64.3	66.2	1.9	3.0	No
110	California Avenue	Campus Drive to Harvard Avenue	63.2	64.2	1.0	3.0	No
111	California Avenue	Theory to Bison Avenue	63.1	63.9	0.8	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	70.9	73.2	2.3	1.5	**Yes**
113	Campus Drive	University Drive to Bridge Road	70.1	71.8	1.7	1.5	**Yes**
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	71.5	2.5	1.5	**Yes**
115	Campus Drive	Stanford Court to Berkeley Avenue	70.1	71.1	1.0	1.5	No
116	Campus Drive	California Avenue to Culver Drive	68.9	70.9	2.0	1.5	**Yes**
117	Campus Drive	Berkeley Avenue to Cornell	68.9	70.0	1.1	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	67.5	69.0	1.5	1.5	**Yes**
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.5	68.7	0.2	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	68.3	1.5	1.5	**Yes**
121	Campus Drive	MacArthur Boulevard to Martin	67.5	68.2	0.7	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	66.8	67.5	0.7	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	67.9	3.4	3.0	**Yes**
124	Chinon	Irvine Boulevard to Cadence	56.6	59.0	2.4	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	55.3	56.1	0.8	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.4	73.9	0.5	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.4	73.8	0.4	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.7	73.9	0.2	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.7	73.9	0.2	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.4	73.6	0.2	1.5	No
131	Culver Drive	San Leandro to Main Street	73.2	73.3	0.1	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	72.7	73.3	0.6	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.1	74.3	0.2	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	72.9	73.2	0.3	1.5	No

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Table 13

135	Culver Drive	Main Street to Alton Parkway	72.7	73.1	0.4	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	72.7	73.0	0.3	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.6	72.9	0.3	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.6	72.8	0.2	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	71.4	72.0	0.6	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.3	72.5	0.2	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	71.9	72.5	0.6	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.1	72.4	0.3	1.5	No
143	Culver Drive	Palo Verde to Campus Drive	71.4	71.6	0.2	1.5	No
144	Culver Drive	University Drive to Sandburg Way	71.5	72.2	0.7	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	72.8	73.2	0.4	1.5	No
146	Culver Drive	Campus Drive to High School	71.6	72.1	0.5	1.5	No
147	Culver Drive	High School to Harvard Avenue	71.6	72.0	0.4	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.5	71.8	0.3	1.5	No
149	Culver Drive	Portola Parkway to Settlers	68.9	71.1	2.2	1.5	**Yes**
150	Culver Drive	Florence to Irvine Boulevard	71.3	71.7	0.4	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.0	70.5	0.5	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.0	70.4	0.4	1.5	No
153	Culver Drive	Settlers to Furrow	0.0	68.4	68.4	5.0	**Yes**
154	Culver Drive	Meadowood to Portola Parkway	68.3	69.0	0.7	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	64.0	7.4	5.0	**Yes**
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	61.2	61.2	5.0	**Yes**
157	East Yale Loop	Alton Parkway to Witherspoon	64.6	65.5	0.9	3.0	No
158	East Yale Loop	Osborn Street to Barranca Parkway	64.3	65.3	1.0	3.0	No
159	East Yale Loop	Yale Avenue to Springbrook South	62.3	64.8	2.5	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	62.3	63.5	1.2	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.3	62.7	0.4	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.3	62.4	0.1	3.0	No
163	Eastwood	Bryan Avenue to Monticello	59.5	60.8	1.3	5.0	No
164	Eastwood	Columbus to Bryan Avenue	58.5	58.7	0.2	5.0	No
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	66.9	67.1	0.2	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.2	62.4	0.2	3.0	No
167	Fairbanks	Alton Parkway to Astor	61.3	69.7	8.4	3.0	**Yes**
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	66.9	66.9	5.0	**Yes**
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	63.3	64.1	0.8	3.0	No

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Table 13

170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	63.3	6.3	5.0	**Yes**
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	59.4	62.1	2.7	5.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	56.8	59.1	2.3	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	74.4	3.9	1.5	**Yes**
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	70.2	6.2	3.0	**Yes**
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	68.8	68.8	5.0	**Yes**
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	68.3	68.3	5.0	**Yes**
177	Harvard Avenue	University Drive to Michelson Drive	71.2	72.0	0.8	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	69.5	70.4	0.9	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	69.4	70.1	0.7	1.5	No
180	Harvard Avenue	Coronado to Main Street	69.3	70.1	0.8	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.4	70.0	0.6	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.3	70.0	0.7	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.5	68.8	0.3	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.5	68.8	0.3	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.4	68.6	0.2	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	67.4	1.9	1.5	**Yes**
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	67.3	1.8	1.5	**Yes**
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.6	67.8	0.2	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.2	67.8	0.6	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	67.8	1.7	1.5	**Yes**
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	68.7	1.9	1.5	**Yes**
192	Harvard Avenue	California Avenue to Berkeley Avenue	66.1	67.2	1.1	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.1	67.2	1.1	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	66.1	67.1	1.0	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	65.9	66.8	0.9	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	58.2	0.0	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	57.5	57.5	5.0	**Yes**
198	Hubble	Irvine Center Drive to Bunsen	55.5	55.9	0.4	5.0	No
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.1	72.3	0.2	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.0	72.2	0.2	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	72.9	73.1	0.2	1.5	No
202	Irvine Boulevard	Merit to Alton	71.4	71.6	0.2	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.4	71.6	0.2	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.9	71.2	0.3	1.5	No

Table 13

205	Irvine Boulevard	Pusan Way to Chinon (B Street)	70.8	71.0	0.2	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.4	71.1	0.7	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.5	71.0	0.5	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	70.9	0.4	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.3	71.0	0.7	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.5	70.9	0.4	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.3	70.9	0.6	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.3	70.9	0.6	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.6	70.8	0.2	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	69.8	70.6	0.8	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to Jeffrey Road	70.2	70.6	0.4	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.2	70.5	0.3	1.5	No
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.1	70.5	0.4	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	69.9	70.3	0.4	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	69.9	70.3	0.4	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.0	70.2	0.2	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.5	69.9	0.4	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.0	69.5	0.5	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.4	68.6	0.2	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	72.6	1.3	1.5	No
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	71.8	2.1	1.5	**Yes**
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	70.9	72.1	1.2	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	71.7	2.0	1.5	**Yes**
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	71.5	2.0	1.5	**Yes**
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	71.4	1.7	1.5	**Yes**
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	71.4	1.8	1.5	**Yes**
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	71.4	2.0	1.5	**Yes**
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	71.3	1.6	1.5	**Yes**
233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	71.0	2.1	1.5	**Yes**
234	Irvine Center Drive	Spectrum to Pacifica	68.9	71.0	2.1	1.5	**Yes**
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	70.9	1.7	1.5	**Yes**
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	70.6	2.5	1.5	**Yes**
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	69.7	70.5	0.8	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	70.5	1.4	1.5	No
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	70.5	2.4	1.5	**Yes**

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240	Irvine Center Drive	Harvard Avenue to Hearthstone	69.2	70.2	1.0	1.5	No
241	Irvine Center Drive	Research to Hubble	67.9	69.7	1.8	1.5	**Yes**
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	69.8	2.9	1.5	**Yes**
243	Irvine Center Drive	Bake Parkway to Muller	67.9	69.7	1.8	1.5	**Yes**
244	Irvine Center Drive	Discovery to Charter	67.3	69.8	2.5	1.5	**Yes**
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	69.5	1.7	1.5	**Yes**
246	Irvine Center Drive	Muller to Tesla	67.7	69.3	1.6	1.5	**Yes**
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	69.2	1.6	1.5	**Yes**
248	Irvine Center Drive	Tesla to Scientific Way	67.1	68.9	1.8	1.5	**Yes**
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	68.7	1.5	1.5	**Yes**
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	68.6	1.9	1.5	**Yes**
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	68.6	1.8	1.5	**Yes**
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	68.5	1.7	1.5	**Yes**
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	70.9	1.3	1.5	No
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.3	74.5	0.2	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.1	75.6	0.5	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.5	73.9	0.4	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.5	77.0	0.5	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.5	73.6	0.1	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	75.7	76.3	0.6	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	73.6	74.3	0.7	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.5	76.0	0.5	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.4	75.9	0.5	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.1	72.9	0.8	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.3	73.8	0.5	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.2	75.5	0.3	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	72.2	73.4	1.2	1.5	No
267	Jamboree Road	Beckman to Barranca Parkway	75.0	75.2	0.2	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	74.9	75.1	0.2	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.5	73.1	0.6	1.5	No
270	Jamboree Road	El Camino Real to West Drive	74.9	75.0	0.1	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	74.9	75.0	0.1	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.5	74.7	0.2	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	71.7	72.7	1.0	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	71.8	72.6	0.8	1.5	No

Table 13

275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.0	70.7	0.7	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.0	79.1	0.1	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.1	78.3	0.2	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.8	78.0	0.2	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	70.9	71.3	0.4	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	71.8	72.2	0.4	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.4	70.9	0.5	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.3	70.8	0.5	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.2	70.7	0.5	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.4	70.7	0.3	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.3	70.6	0.3	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.4	70.6	0.2	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.1	70.4	0.3	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.4	69.6	0.2	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.4	69.6	0.2	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.0	70.4	0.4	1.5	No
291	Jeffrey Road	Grove to Trabuco Road	70.0	70.2	0.2	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.1	68.5	0.4	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	64.0	65.8	1.8	3.0	No
294	Jeffrey Road	Irvine Boulevard to Encore	64.0	65.5	1.5	3.0	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.4	64.6	0.2	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.1	64.3	0.2	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	72.6	73.3	0.7	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	69.9	2.2	1.5	**Yes**
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	69.1	4.3	3.0	**Yes**
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	67.9	1.9	1.5	**Yes**
301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	67.5	3.9	3.0	**Yes**
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	67.9	1.9	1.5	**Yes**
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	66.9	1.4	1.5	No
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	66.4	1.9	3.0	No
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	64.8	66.1	1.3	3.0	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	63.9	65.6	1.7	3.0	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	68.3	69.3	1.0	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	68.3	69.3	1.0	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	65.3	66.3	1.0	1.5	No

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Table 13

310	Lake Road	Alton Parkway to Barranca Parkway	59.0	59.2	0.2	5.0	No
311	Lynx	Irvine Boulevard to Astor	0.0	53.2	53.2	5.0	**Yes**
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.0	76.7	0.7	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	75.8	76.6	0.8	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	75.7	76.6	0.9	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.7	69.9	0.2	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.7	69.9	0.2	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.4	70.5	0.1	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.3	72.1	0.8	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.3	72.1	0.8	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.0	69.5	0.5	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.0	68.3	0.3	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.5	67.0	0.5	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	68.5	69.3	0.8	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	70.7	1.3	1.5	No
325	Main Street	MacArthur Boulevard to Mercantile	69.4	70.2	0.8	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	67.7	68.4	0.7	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.2	68.3	1.1	1.5	No
328	Main Street	McDurmott to Red Hill Avenue	67.9	68.1	0.2	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.7	68.0	0.3	1.5	No
330	Main Street	Jamboree Road to Union	67.4	67.8	0.4	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.0	67.1	0.1	1.5	No
332	Main Street	Siglo to Jamboree Road	67.2	67.7	0.5	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.4	67.5	0.1	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.2	66.4	0.2	1.5	No
335	Main Street	Harvard Avenue to San Mateo	66.2	66.4	0.2	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	72.3	4.5	1.5	**Yes**
337	Marine Way	Alton Parkway to Bake Parkway	0.0	69.3	69.3	5.0	**Yes**
338	Marine Way	Lynx to Barranca Parkway	0.0	69.3	69.3	5.0	**Yes**
339	Marine Way	County Access to Treble	59.3	68.4	9.1	5.0	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	68.2	6.2	3.0	**Yes**
341	Marine Way	Skyhawk to County Access	59.3	67.1	7.8	5.0	**Yes**
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	66.8	14.1	5.0	**Yes**
343	Marine Way	Treble to Lynx	0.0	66.4	66.4	5.0	**Yes**
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	62.2	64.3	2.1	3.0	No

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Table 13

345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	62.1	64.1	2.0	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	61.0	62.4	1.4	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	57.6	59.3	1.7	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.5	59.8	0.3	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.7	55.3	0.6	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	53.5	54.6	1.1	5.0	No
351	Merit	Irvine Boulevard to Cadence	59.3	57.9	-1.4	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	66.7	68.3	1.6	1.5	**Yes**
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.3	67.1	0.8	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	66.7	68.0	1.3	1.5	No
355	Michelson Drive	Parkside to Culver Drive	66.2	67.8	1.6	1.5	**Yes**
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.3	66.8	0.5	1.5	No
357	Michelson Drive	Carlson to Prince	65.4	67.3	1.9	1.5	**Yes**
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	66.7	67.3	0.6	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.2	66.8	0.6	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	64.9	66.7	1.8	3.0	No
361	Michelson Drive	Jamboree Road to Carlson	68.0	69.6	1.6	1.5	**Yes**
362	Michelson Drive	Teller to Jamboree Road	68.7	69.6	0.9	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.6	66.9	0.3	1.5	No
364	Michelson Drive	Culver Drive to Angell	65.9	66.2	0.3	1.5	No
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	70.7	71.7	1.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	61.4	61.1	-0.3	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	66.4	67.1	0.7	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.1	66.3	0.2	1.5	No
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.1	66.3	0.2	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	65.9	66.6	0.7	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.0	65.1	0.1	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	60.8	61.9	1.1	3.0	No
373	Northwood	Yale Avenue to Savannah	62.3	62.5	0.2	3.0	No
374	Northwood	Goldrush to Yale Avenue	60.5	61.5	1.0	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	69.2	3.0	1.5	**Yes**
376	Pacifica	Gateway to Barranca Parkway	63.3	65.2	1.9	3.0	No
377	Pacifica	Alton Parkway to Gateway	61.8	64.0	2.2	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	61.7	62.7	1.0	3.0	No
379	Pacifica	Meridian to Alton Parkway	58.1	60.8	2.7	5.0	No

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Table 13

380	Park Place	Christamon South to Yale Avenue	56.8	57.0	0.2	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	71.5	1.2	1.5	No
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	71.5	1.2	1.5	No
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	71.4	1.8	1.5	**Yes**
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	71.0	1.4	1.5	No
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	70.1	4.6	1.5	**Yes**
386	Portola Parkway	Gatepark to Culver Drive	69.6	70.6	1.0	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	69.6	70.5	0.9	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	69.6	70.4	0.8	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	69.6	70.4	0.8	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	69.6	70.3	0.7	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	70.1	1.5	1.5	**Yes**
392	Portola Parkway	Culver Drive to Yale Avenue	68.6	69.6	1.0	1.5	No
393	Portola Parkway	Silverado to Portola Springs	66.5	68.5	2.0	1.5	**Yes**
394	Pusan	Irvine Boulevard to Cadence	54.0	56.2	2.2	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.3	67.4	0.1	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	64.8	65.5	0.7	3.0	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.4	54.8	0.4	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	70.8	71.5	0.7	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.6	70.1	0.5	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.5	70.0	0.5	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.3	69.9	0.6	1.5	No
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.3	69.8	0.5	1.5	No
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	70.2	71.3	1.1	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	69.6	70.6	1.0	1.5	No
405	Research Drive	Hubble to Bake Parkway	65.4	69.5	4.1	1.5	**Yes**
406	Research Drive	Scientific to Lake Forest Drive	65.6	67.4	1.8	1.5	**Yes**
407	Research Drive	Bake Parkway to Muller	66.2	66.6	0.4	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	64.9	65.6	0.7	3.0	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	67.3	1.8	1.5	**Yes**
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	65.9	66.4	0.5	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	65.8	66.0	0.2	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.0	58.1	0.1	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	67.7	68.7	1.0	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	67.7	68.4	0.7	1.5	No

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Table 13

415	Rockfield Avenue	Whatney to McLaren	66.3	67.6	1.3	1.5	No
416	Rockfield Avenue	Bake Parkway to Whatney	62.5	64.1	1.6	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.5	63.1	0.6	3.0	No
418	Roosevelt	Jeffrey Road to Vision	65.2	66.5	1.3	1.5	No
419	Roosevelt	Yale Avenue to Van Buren	67.9	68.2	0.3	1.5	No
420	Roosevelt	Vision to Bay Tree	64.5	66.2	1.7	3.0	No
421	Roosevelt	Nimitz to Jeffrey Road	65.2	65.9	0.7	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	63.7	65.6	1.9	3.0	No
423	Royal Oak	Alton Parkway to Eaglecreek	63.8	64.0	0.2	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	72.1	1.4	1.5	No
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	70.6	71.9	1.3	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	73.6	74.6	1.0	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	72.7	1.5	1.5	**Yes**
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	74.6	1.9	1.5	**Yes**
429	Sand Canyon Avenue	Trabuco Road to Towngate	70.0	71.1	1.1	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	70.8	1.6	1.5	**Yes**
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	72.7	73.8	1.1	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	70.6	1.3	1.5	No
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.3	73.5	0.2	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	72.4	73.5	1.1	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.2	73.5	0.3	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	69.3	70.4	1.1	1.5	No
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	69.2	70.2	1.0	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	69.2	1.2	1.5	No
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.6	72.8	0.2	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	69.7	70.6	0.9	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.3	71.7	0.4	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.6	55.0	0.4	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.6	69.2	0.6	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.1	67.5	0.4	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	59.6	6.8	5.0	**Yes**
446	Southwood	Yale Avenue to Colt	60.5	60.5	0.0	3.0	No
447	Southwood	Challenger to Yale Avenue	59.9	60.2	0.3	5.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.4	61.9	0.5	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.0	62.4	0.4	3.0	No

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Table 13

450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	56.9	57.6	0.7	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	70.6	3.6	1.5	**Yes**
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	69.2	6.0	3.0	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	69.1	6.3	3.0	**Yes**
454	Technology Drive	Ada to Alton Parkway	57.8	63.0	5.2	5.0	**Yes**
455	Toledo Way	Bake Parkway to City Limits	65.5	65.7	0.2	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.5	64.7	0.2	3.0	No
457	Toledo Way	Alton Parkway to Parker	63.9	64.3	0.4	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	66.7	67.1	0.4	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.7	66.9	0.2	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.3	66.7	0.4	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.3	66.6	0.3	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.3	66.5	0.2	1.5	No
463	Trabuco Road	Yale Avenue to Remington	65.7	66.2	0.5	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	65.7	66.0	0.3	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	68.8	68.8	5.0	**Yes**
466	Turtle Rock Drive	Ridgeline to Willowleaf	66.9	67.8	0.9	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.0	67.7	0.7	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.7	67.0	0.3	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	63.9	64.0	0.1	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	63.8	64.1	0.3	3.0	No
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.3	65.4	0.1	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.2	72.9	0.7	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.1	72.5	0.4	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.1	72.8	0.7	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.0	72.3	0.3	1.5	No
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.3	72.7	0.4	1.5	No
477	University Drive	Mesa to Campus Drive	73.3	74.5	1.2	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	73.3	74.4	1.1	1.5	No
479	University Drive	California Avenue to Mesa	73.3	74.3	1.0	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	69.5	70.6	1.1	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	70.4	71.5	1.1	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	69.2	70.1	0.9	1.5	No
483	University Drive	San Joaquin to Culver Drive	68.7	69.7	1.0	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	68.7	69.7	1.0	1.5	No

485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	68.0	5.0	3.0	**Yes**
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	69.0	3.8	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	66.7	3.8	3.0	**Yes**
488	Valley Oak Drive	Alton Parkway to Hawkcreek	63.8	64.8	1.0	3.0	No
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	70.9	2.0	1.5	**Yes**
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	70.7	1.9	1.5	**Yes**
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	70.7	1.4	1.5	No
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	70.3	1.9	1.5	**Yes**
493	Von Karman Avenue	Main Street to Anchor	69.2	70.6	1.4	1.5	No
494	Von Karman Avenue	Anchor to McGaw Avenue	69.2	70.4	1.2	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.2	70.2	1.0	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	67.8	69.5	1.7	1.5	**Yes**
497	Von Karman Avenue	Campus Drive to Martin	67.8	69.5	1.7	1.5	**Yes**
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	69.5	1.7	1.5	**Yes**
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	70.9	2.0	1.5	**Yes**
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.6	69.1	0.5	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.2	68.7	0.5	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.2	68.7	0.5	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.0	68.4	0.4	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.0	68.4	0.4	1.5	No
505	Walnut Avenue	Culver Drive to Franciscan Street	68.0	68.3	0.3	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.0	67.9	0.9	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.0	67.8	0.8	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	66.3	67.1	0.8	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	66.3	67.1	0.8	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	69.6	70.2	0.6	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	67.8	68.6	0.8	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.1	67.0	0.9	1.5	No
513	Warner Avenue	Santa Ynez to Culver Drive	65.1	66.0	0.9	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	64.9	65.7	0.8	3.0	No
515	West Yale Loop	Alton Parkway to Blue Lake North	63.3	64.0	0.7	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.3	63.8	0.5	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	62.7	63.9	1.2	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.7	62.9	0.2	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	61.8	62.9	1.1	3.0	No

Table 13

520	West Yale Loop	Warner Avenue to Stonecreek South	61.8	62.6	0.8	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	61.7	62.4	0.7	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	61.8	62.4	0.6	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	61.8	62.3	0.5	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.2	63.6	0.4	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.3	61.5	0.2	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.5	68.6	0.1	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.2	67.3	0.1	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.7	71.0	0.3	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	66.9	67.0	0.1	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.5	66.9	0.4	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	66.3	1.3	1.5	No
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.6	65.7	0.1	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.6	65.7	0.1	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.1	65.6	0.5	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.1	65.4	0.3	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	64.8	65.1	0.3	3.0	No
537	Yale Avenue	Bryan Avenue to Monticello	64.8	65.0	0.2	3.0	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.1	64.3	0.2	3.0	No
539	Yale Avenue	University Drive to Royce	57.9	63.4	5.5	5.0	**Yes**
540	Yale Court	Arborwood to Portola Parkway	60.0	60.3	0.3	1.5	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria?

Table 13:Existing and Cumulative Conservative Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]				Incremental Noise Level Increase Threshold[3]	
			Existing	Conservative	Cumulative Conservative	Cumulative Increase	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	70.8	70.8	70.8	5.0	**Yes**
2	Ada	Alton Parkway to Barranca PArkway	60.3	69.3	69.3	9.0	3.0	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	74.1	74.1	2.8	1.5	**Yes**
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	74.8	74.8	2.7	1.5	**Yes**
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.3	71.8	71.8	0.5	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	72.0	72.0	2.7	1.5	**Yes**
7	Alton Parkway	Jeffrey Road to Royal Oak	70.1	70.9	70.9	0.8	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	70.7	70.7	7.0	3.0	**Yes**
9	Alton Parkway	Culver Drive to West Yale Loop	70.4	70.7	70.7	0.3	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.3	70.7	70.7	0.4	1.5	No
11	Alton Parkway	Technology Drive West to Ada	70.2	72.6	72.6	2.4	1.5	**Yes**
12	Alton Parkway	Creek Road to East Yale Loop	70.1	70.6	70.7	0.6	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	70.5	70.6	2.5	1.5	**Yes**
14	Alton Parkway	Lake Road to Creek Road	70.1	70.4	70.4	0.3	1.5	No
15	Alton Parkway	Telemetry to Banting	69.0	70.4	70.5	1.5	1.5	**Yes**
16	Alton Parkway	Irvine Boulevard to Commercentre	70.3	70.8	70.8	0.5	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.0	70.4	70.4	1.4	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	71.2	71.3	2.7	1.5	**Yes**
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	73.7	73.7	1.6	1.5	**Yes**
20	Alton Parkway	Laguna Canyon Road to Jenner	69.0	70.3	70.3	1.3	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	71.2	71.2	2.1	1.5	**Yes**
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.4	70.1	70.1	0.7	1.5	No
23	Alton Parkway	Banting to Pacifica	68.4	70.0	70.1	1.7	1.5	**Yes**
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.1	70.9	71.0	0.9	1.5	No
25	Alton Parkway	Ada to Technology Drive East	69.2	70.7	70.7	1.5	1.5	**Yes**
26	Alton Parkway	Von Karman Avenue to Jamboree Road	68.7	69.7	69.8	1.1	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.8	69.9	69.9	0.1	1.5	No
28	Alton Parkway	Hughes to Morgan	69.5	69.8	69.8	0.3	1.5	No
29	Alton Parkway	Morgan to Toledo Way	68.8	69.1	69.1	0.3	1.5	No
30	Alton Parkway	San Marino to Culver Drive	68.8	69.2	69.2	0.4	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.0	69.0	69.2	1.2	1.5	No

Table 14

32	Alton Parkway	Hospital to Laguna Canyon Road	70.7	72.0	72.1	1.4	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.1	71.8	71.9	0.8	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.1	68.8	69.0	0.9	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	68.0	68.7	68.7	0.7	1.5	No
36	Alton Parkway	Fairbanks to Foster	67.5	68.5	68.6	1.1	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.2	68.4	68.4	0.2	1.5	No
38	Alton Parkway	Pacifica to Meridian	69.7	71.7	71.7	2.0	1.5	**Yes**
39	Alton Parkway	Bertea to Fairbanks	68.1	68.3	68.3	0.2	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	68.3	68.3	1.7	1.5	**Yes**
41	Alton Parkway	Paseo Westpark to San Marino	67.9	68.3	68.3	0.4	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	66.9	67.7	67.9	1.0	1.5	No
43	Astor	Lynx to Fairbanks	57.5	67.1	67.1	9.6	5.0	**Yes**
44	Astor	Cadence to Lynx	0.0	65.9	65.9	65.9	5.0	**Yes**
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	75.4	76.7	76.7	1.3	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.7	73.0	73.1	0.4	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	74.7	75.1	75.1	0.4	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	71.9	72.1	72.2	0.3	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.5	71.7	71.7	0.2	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.4	71.6	71.6	0.2	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	68.5	69.6	69.7	1.2	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.1	64.9	65.1	1.0	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	61.9	63.4	63.7	1.8	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	57.6	60.3	60.3	2.7	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	73.3	73.3	2.8	1.5	**Yes**
56	Barranca Parkway	Banting to Pacifica	70.7	72.8	72.8	2.1	1.5	**Yes**
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	73.0	73.0	3.2	1.5	**Yes**
58	Barranca Parkway	Technology Drive West to Ada	70.4	72.7	72.7	2.3	1.5	**Yes**
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	72.6	72.6	3.3	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	71.9	72.3	72.3	0.4	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	72.2	72.3	0.6	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.6	72.1	72.1	0.5	1.5	No
63	Barranca Parkway	Ada to Alton Parkway	70.2	72.1	72.2	2.0	1.5	**Yes**
64	Barranca Parkway	Lake Road to Creek Road	71.2	71.8	71.8	0.6	1.5	No
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	74.7	74.8	1.5	1.5	**Yes**
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	71.6	71.7	2.0	1.5	**Yes**
67	Barranca Parkway	Lyon to East Yale Loop	71.0	71.6	71.6	0.6	1.5	No
68	Barranca Parkway	Creek Road to Lyon	70.9	71.5	71.5	0.6	1.5	No

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69	Barranca Parkway	Von Karman Avenue to Jamboree Road	71.5	72.8	72.8	1.3	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	71.1	71.1	2.6	1.5	**Yes**
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.0	72.5	72.5	0.5	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	70.8	70.8	1.7	1.5	**Yes**
73	Barranca Parkway	Jamboree Road to Construction Circle	70.1	71.2	71.2	1.1	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	69.8	71.0	71.1	1.3	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	70.5	70.6	1.8	1.5	**Yes**
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	70.4	70.5	2.2	1.5	**Yes**
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	70.4	70.4	1.6	1.5	**Yes**
78	Barranca Parkway	Pullman Street to Red Hill Avenue	72.7	73.7	73.6	0.9	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	69.4	70.6	70.6	1.2	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	69.4	70.6	70.6	1.2	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	69.3	70.6	70.6	1.3	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.2	70.2	70.3	1.1	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	56.1	57.1	57.1	1.0	5.0	No
84	Beacon	Ridge Valley to Benchmark	0.0	59.7	59.7	59.7	5.0	**Yes**
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	56.5	56.5	56.5	5.0	**Yes**
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	68.6	69.6	69.7	1.1	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.0	70.3	70.3	0.3	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	67.5	68.6	68.6	1.1	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	67.5	68.2	68.2	0.7	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.5	68.0	68.1	0.6	1.5	No
91	Bosque	Cadence to Great Park Boulevard	63.0	65.2	65.2	2.2	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	59.7	63.6	63.6	3.9	5.0	No
93	Bosque	Benchmark to Cadence	59.7	63.2	63.2	3.5	5.0	No
94	Bosque	Great Park Boulevard to Beacon	0.0	56.8	56.8	56.8	5.0	**Yes**
95	Bosque	Beacon to S 5th Street	0.0	56.2	56.2	56.2	5.0	**Yes**
96	Bryan Avenue	Jamboree Road to Market Place	68.7	69.0	69.1	0.4	1.5	No
97	Bryan Avenue	Market Place to El Camino Real	68.7	68.9	68.8	0.1	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.7	68.8	68.9	0.2	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.7	68.8	68.9	0.2	1.5	No
100	Bryan Avenue	Eastwood to Jeffrey Road	65.8	67.1	67.2	1.4	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.8	66.8	0.5	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.3	66.7	66.7	0.4	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	65.8	66.7	66.8	1.0	1.5	No
104	Cadence	Pusan to Chinon	64.5	65.6	65.6	1.1	3.0	No
105	Cadence	Bosque to Pusan	65.7	65.3	65.3	-0.4	1.5	No

Table 14

106	Cadence	Ridge Valley (O Street) to Bosque	62.6	64.0	64.0	1.4	3.0	No
107	Cadence	Chinon to Merit	62.6	62.3	62.4	-0.2	3.0	No
108	Cadence	Merit to Astor	0.0	59.4	59.4	59.4	5.0	**Yes**
109	California Avenue	University Drive to Academy Way	64.3	66.2	67.3	3.0	3.0	**Yes**
110	California Avenue	Campus Drive to Harvard Avenue	63.2	64.2	64.2	1.0	3.0	No
111	California Avenue	Theory to Bison Avenue	63.1	63.9	64.0	0.9	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	70.9	73.2	73.3	2.4	1.5	**Yes**
113	Campus Drive	University Drive to Bridge Road	70.1	71.8	71.8	1.7	1.5	**Yes**
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	71.5	71.6	2.6	1.5	**Yes**
115	Campus Drive	Stanford Court to Berkeley Avenue	70.1	71.1	71.1	1.0	1.5	No
116	Campus Drive	California Avenue to Culver Drive	68.9	70.9	70.9	2.0	1.5	**Yes**
117	Campus Drive	Berkeley Avenue to Cornell	68.9	70.0	69.9	1.0	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	67.5	69.1	69.2	1.7	1.5	**Yes**
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.5	68.7	68.7	0.2	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	68.4	68.5	1.7	1.5	**Yes**
121	Campus Drive	MacArthur Boulevard to Martin	67.5	68.2	68.3	0.8	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	66.8	67.5	67.6	0.8	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	67.9	67.9	3.4	3.0	**Yes**
124	Chinon	Irvine Boulevard to Cadence	56.6	58.8	58.8	2.2	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	55.3	56.3	56.3	1.0	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.4	74.0	73.9	0.5	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.4	73.9	73.8	0.4	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.7	73.9	73.9	0.2	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.7	73.8	73.8	0.1	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.4	73.6	73.6	0.2	1.5	No
131	Culver Drive	San Leandro to Main Street	73.2	73.3	73.3	0.1	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	72.7	73.4	73.4	0.7	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.1	74.2	74.2	0.1	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	72.9	73.2	73.2	0.3	1.5	No
135	Culver Drive	Main Street to Alton Parkway	72.7	73.1	73.1	0.4	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	72.7	73.0	73.0	0.3	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.6	72.9	72.8	0.2	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.6	72.8	72.9	0.3	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	71.4	72.0	72.0	0.6	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.3	72.5	72.5	0.2	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	71.9	72.5	72.5	0.6	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.1	72.4	72.4	0.3	1.5	No

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Table 14

143	Culver Drive	Palo Verde to Campus Drive	71.4	71.6	71.6	0.2	1.5	No
144	Culver Drive	University Drive to Sandburg Way	71.5	72.2	72.2	0.7	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	72.8	73.2	73.2	0.4	1.5	No
146	Culver Drive	Campus Drive to High School	71.6	72.1	72.1	0.5	1.5	No
147	Culver Drive	High School to Harvard Avenue	71.6	72.0	72.0	0.4	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.5	71.8	71.8	0.3	1.5	No
149	Culver Drive	Portola Parkway to Settlers	68.9	71.2	71.2	2.3	1.5	**Yes**
150	Culver Drive	Florence to Irvine Boulevard	71.3	71.7	71.7	0.4	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.0	70.5	70.5	0.5	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.0	70.4	70.4	0.4	1.5	No
153	Culver Drive	Settlers to Furrow	0.0	68.5	68.6	68.6	5.0	**Yes**
154	Culver Drive	Meadowood to Portola Parkway	68.3	69.0	69.0	0.7	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	65.5	65.5	8.9	5.0	**Yes**
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	63.6	63.6	63.6	5.0	**Yes**
157	East Yale Loop	Alton Parkway to Witherspoon	64.6	65.6	65.6	1.0	3.0	No
158	East Yale Loop	Osborn Street to Barranca Parkway	64.3	65.4	65.4	1.1	3.0	No
159	East Yale Loop	Yale Avenue to Springbrook South	62.3	65.0	65.0	2.7	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	62.3	63.6	63.6	1.3	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.3	62.8	62.9	0.6	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.3	62.4	62.5	0.2	3.0	No
163	Eastwood	Bryan Avenue to Monticello	59.5	60.8	60.9	1.4	5.0	No
164	Eastwood	Columbus to Bryan Avenue	58.5	58.8	58.9	0.4	5.0	No
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	66.9	67.1	67.2	0.3	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.2	62.4	62.4	0.2	3.0	No
167	Fairbanks	Alton Parkway to Astor	61.3	69.8	69.9	8.6	3.0	**Yes**
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	66.9	66.9	66.9	5.0	**Yes**
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	63.3	64.0	64.0	0.7	3.0	No
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	63.5	63.5	6.5	5.0	**Yes**
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	59.4	62.3	62.2	2.8	5.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	56.8	59.2	59.2	2.4	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	74.6	74.6	4.1	1.5	**Yes**
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	70.3	70.4	6.4	3.0	**Yes**
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	69.0	69.1	69.1	5.0	**Yes**
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	68.4	68.4	68.4	5.0	**Yes**
177	Harvard Avenue	University Drive to Michelson Drive	71.2	72.0	72.1	0.9	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	69.5	70.4	70.5	1.0	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	69.4	70.2	70.3	0.9	1.5	No

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180	Harvard Avenue	Coronado to Main Street	69.3	70.1	70.2	0.9	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.4	70.1	70.2	0.8	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.3	70.0	70.1	0.8	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.5	68.8	68.6	0.1	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.5	68.8	68.7	0.2	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.4	68.6	68.6	0.2	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	67.5	67.5	2.0	1.5	**Yes**
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	67.4	67.4	1.9	1.5	**Yes**
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.6	67.9	67.9	0.3	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.2	67.9	67.8	0.6	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	67.8	67.8	1.7	1.5	**Yes**
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	68.8	68.9	2.1	1.5	**Yes**
192	Harvard Avenue	California Avenue to Berkeley Avenue	66.1	67.4	67.3	1.2	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.1	67.3	67.3	1.2	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	66.1	67.2	67.2	1.1	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	65.9	66.7	66.8	0.9	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	58.2	58.2	0.0	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	57.5	57.5	57.5	5.0	**Yes**
198	Hubble	Irvine Center Drive to Bunsen	55.5	55.9	56.1	0.6	5.0	No
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.1	72.2	72.3	0.2	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.0	72.2	72.2	0.2	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	72.9	73.0	73.0	0.1	1.5	No
202	Irvine Boulevard	Merit to Alton	71.4	71.6	71.6	0.2	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.4	71.6	71.7	0.3	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.9	71.1	71.2	0.3	1.5	No
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	70.8	71.0	71.0	0.2	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.4	71.2	71.3	0.9	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.5	71.2	71.3	0.8	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	71.1	71.1	0.6	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.3	71.1	71.2	0.9	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.5	71.1	71.2	0.7	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.3	71.0	71.1	0.8	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.3	71.0	71.1	0.8	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.6	70.9	71.1	0.5	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	69.8	70.5	70.6	0.8	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/ The Groves to Jeffrey Road	70.2	70.7	70.8	0.6	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.2	70.5	70.5	0.3	1.5	No

217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.1	70.6	70.7	0.6	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	69.9	70.5	70.6	0.7	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	69.9	70.4	70.5	0.6	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.0	70.2	70.2	0.2	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.5	70.0	70.0	0.5	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.0	69.6	69.7	0.7	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.4	68.6	68.6	0.2	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	72.7	72.8	1.5	1.5	**Yes**
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	72.0	72.0	2.3	1.5	**Yes**
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	70.9	72.2	72.3	1.4	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	71.9	71.9	2.2	1.5	**Yes**
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	71.7	71.7	2.2	1.5	**Yes**
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	71.6	71.6	1.9	1.5	**Yes**
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	71.6	71.6	2.0	1.5	**Yes**
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	71.6	71.7	2.3	1.5	**Yes**
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	71.5	71.5	1.8	1.5	**Yes**
233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	71.3	71.4	2.5	1.5	**Yes**
234	Irvine Center Drive	Spectrum to Pacifica	68.9	71.3	71.3	2.4	1.5	**Yes**
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	71.0	71.0	1.8	1.5	**Yes**
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	70.9	71.0	2.9	1.5	**Yes**
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	69.7	70.6	70.6	0.9	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	70.7	70.7	1.6	1.5	**Yes**
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	70.7	70.7	2.6	1.5	**Yes**
240	Irvine Center Drive	Harvard Avenue to Hearthstone	69.2	70.3	70.3	1.1	1.5	No
241	Irvine Center Drive	Research to Hubble	67.9	69.8	70.0	2.1	1.5	**Yes**
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	70.1	70.2	3.3	1.5	**Yes**
243	Irvine Center Drive	Bake Parkway to Muller	67.9	69.7	69.8	1.9	1.5	**Yes**
244	Irvine Center Drive	Discovery to Charter	67.3	70.2	70.2	2.9	1.5	**Yes**
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	69.5	69.6	1.8	1.5	**Yes**
246	Irvine Center Drive	Muller to Tesla	67.7	69.3	69.4	1.7	1.5	**Yes**
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	69.4	69.4	1.8	1.5	**Yes**
248	Irvine Center Drive	Tesla to Scientific Way	67.1	68.9	69.1	2.0	1.5	**Yes**
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	68.7	68.9	1.7	1.5	**Yes**
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	68.8	68.9	2.2	1.5	**Yes**
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	68.8	68.9	2.1	1.5	**Yes**
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	68.8	68.9	2.1	1.5	**Yes**
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	71.0	71.1	1.5	1.5	**Yes**

254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.3	74.5	74.5	0.2	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.1	75.6	75.7	0.6	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.5	73.9	73.9	0.4	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.5	77.0	77.0	0.5	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.5	73.6	73.6	0.1	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	75.7	76.4	76.4	0.7	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	73.6	74.4	74.4	0.8	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.5	76.0	76.1	0.6	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.4	76.0	76.0	0.6	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.1	73.0	73.1	1.0	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.3	73.9	74.0	0.7	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.2	75.6	75.7	0.5	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	72.2	73.5	73.6	1.4	1.5	No
267	Jamboree Road	Beckman to Barranca Parkway	75.0	75.3	75.3	0.3	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	74.9	75.1	75.1	0.2	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.5	73.2	73.2	0.7	1.5	No
270	Jamboree Road	El Camino Real to West Drive	74.9	75.0	74.9	0.0	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	74.9	74.9	74.9	0.0	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.5	74.6	74.6	0.1	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	71.7	72.8	72.9	1.2	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	71.8	72.8	72.8	1.0	1.5	No
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.0	70.7	70.7	0.7	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.0	79.2	79.2	0.2	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.1	78.3	78.4	0.3	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.8	78.0	78.0	0.2	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	70.9	71.4	71.4	0.5	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	71.8	72.3	72.3	0.5	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.4	70.9	71.0	0.6	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.3	70.9	70.9	0.6	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.2	70.7	70.8	0.6	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.4	70.9	71.0	0.6	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.3	70.7	70.7	0.4	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.4	70.8	70.8	0.4	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.1	70.5	70.5	0.4	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.4	69.6	69.7	0.3	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.4	69.6	69.7	0.3	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.0	70.4	70.4	0.4	1.5	No

291	Jeffrey Road	Grove to Trabuco Road	70.0	70.2	70.2	0.2	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.1	68.5	68.6	0.5	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	64.0	65.8	65.5	1.5	3.0	No
294	Jeffrey Road	Irvine Boulevard to Encore	64.0	65.5	65.4	1.4	3.0	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.4	64.6	64.6	0.2	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.1	64.3	64.3	0.2	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	72.6	73.3	73.4	0.8	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	69.9	70.0	2.3	1.5	**Yes**
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	69.5	69.5	4.7	3.0	**Yes**
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	67.9	68.0	2.0	1.5	**Yes**
301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	69.0	69.0	5.4	3.0	**Yes**
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	67.9	68.0	2.0	1.5	**Yes**
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	67.0	67.1	1.6	1.5	**Yes**
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	67.5	67.5	3.0	3.0	**Yes**
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	64.8	66.3	66.4	1.6	3.0	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	63.9	66.2	66.3	2.4	3.0	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	68.3	69.4	69.6	1.3	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	68.3	69.3	69.5	1.2	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	65.3	66.4	66.6	1.3	1.5	No
310	Lake Road	Alton Parkway to Barranca Parkway	59.0	59.2	59.2	0.2	5.0	No
311	Lynx	Irvine Boulevard to Astor	0.0	53.2	53.2	53.2	5.0	**Yes**
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.0	76.7	76.8	0.8	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	75.8	76.7	76.7	0.9	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	75.7	76.6	76.6	0.9	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.7	69.9	69.9	0.2	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.7	69.8	69.8	0.1	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.4	70.5	70.5	0.1	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.3	72.2	72.3	1.0	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.3	72.1	72.3	1.0	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.0	69.5	69.5	0.5	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.0	68.3	68.4	0.4	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.5	67.1	67.2	0.7	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	68.5	69.3	69.5	1.0	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	70.9	70.9	1.5	1.5	**Yes**
325	Main Street	MacArthur Boulevard to Mercantile	69.4	70.3	70.3	0.9	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	67.7	68.4	68.5	0.8	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.2	68.5	68.5	1.3	1.5	No

328	Main Street	McDurmott to Red Hill Avenue	67.9	68.1	68.1	0.2	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.7	68.0	68.0	0.3	1.5	No
330	Main Street	Jamboree Road to Union	67.4	67.8	67.9	0.5	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.0	67.2	67.2	0.2	1.5	No
332	Main Street	Siglo to Jamboree Road	67.2	67.7	67.7	0.5	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.4	67.5	67.6	0.2	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.2	66.3	66.4	0.2	1.5	No
335	Main Street	Harvard Avenue to San Mateo	66.2	66.3	66.3	0.1	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	72.3	72.3	4.5	1.5	**Yes**
337	Marine Way	Alton Parkway to Bake Parkway	0.0	69.4	69.5	69.5	5.0	**Yes**
338	Marine Way	Lynx to Barranca Parkway	0.0	69.3	69.3	69.3	5.0	**Yes**
339	Marine Way	County Access to Treble	59.3	68.5	68.5	9.2	5.0	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	68.3	68.3	6.3	3.0	**Yes**
341	Marine Way	Skyhawk to County Access	59.3	67.4	67.4	8.1	5.0	**Yes**
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	66.8	66.8	14.1	5.0	**Yes**
343	Marine Way	Treble to Lynx	0.0	66.5	66.6	66.6	5.0	**Yes**
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	62.2	64.5	64.5	2.3	3.0	No
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	62.1	64.3	64.4	2.3	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	61.0	62.4	62.4	1.4	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	57.6	59.6	59.5	1.9	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.5	59.8	59.6	0.1	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.7	55.6	55.7	1.0	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	53.5	54.7	54.8	1.3	5.0	No
351	Merit	Irvine Boulevard to Cadence	59.3	58.0	58.0	-1.3	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	66.7	68.3	68.3	1.6	1.5	**Yes**
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.3	67.2	67.2	0.9	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	66.7	68.2	68.1	1.4	1.5	No
355	Michelson Drive	Parkside to Culver Drive	66.2	67.8	67.8	1.6	1.5	**Yes**
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.3	66.9	66.9	0.6	1.5	No
357	Michelson Drive	Carlson to Prince	65.4	67.3	67.3	1.9	1.5	**Yes**
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	66.7	67.5	67.5	0.8	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.2	66.8	66.8	0.6	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	64.9	66.8	66.9	2.0	3.0	No
361	Michelson Drive	Jamboree Road to Carlson	68.0	69.6	69.6	1.6	1.5	**Yes**
362	Michelson Drive	Teller to Jamboree Road	68.7	69.6	69.6	0.9	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.6	67.1	67.1	0.5	1.5	No
364	Michelson Drive	Culver Drive to Angell	65.9	66.3	66.3	0.4	1.5	No

365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	70.7	71.7	71.7	1.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	61.4	61.1	61.0	-0.4	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	66.4	67.2	67.3	0.9	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.1	66.3	66.2	0.1	1.5	No
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.1	66.3	66.3	0.2	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	65.9	66.6	66.7	0.8	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.0	65.1	65.1	0.1	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	60.8	61.8	61.7	0.9	3.0	No
373	Northwood	Yale Avenue to Savannah	62.3	62.5	62.5	0.2	3.0	No
374	Northwood	Goldrush to Yale Avenue	60.5	61.5	61.6	1.1	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	69.7	69.7	3.5	1.5	**Yes**
376	Pacifica	Gateway to Barranca Parkway	63.3	65.3	65.3	2.0	3.0	No
377	Pacifica	Alton Parkway to Gateway	61.8	64.1	64.2	2.4	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	61.7	62.7	62.7	1.0	3.0	No
379	Pacifica	Meridian to Alton Parkway	58.1	60.9	60.9	2.8	5.0	No
380	Park Place	Christamon South to Yale Avenue	56.8	57.0	57.0	0.2	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	71.7	71.8	1.5	1.5	**Yes**
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	71.7	71.8	1.5	1.5	**Yes**
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	71.4	71.5	1.9	1.5	**Yes**
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	71.1	71.1	1.5	1.5	**Yes**
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	70.1	70.1	4.6	1.5	**Yes**
386	Portola Parkway	Gatepark to Culver Drive	69.6	70.7	70.9	1.3	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	69.6	70.7	70.8	1.2	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	69.6	70.6	70.7	1.1	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	69.6	70.5	70.6	1.0	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	69.6	70.5	70.6	1.0	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	70.2	70.4	1.8	1.5	**Yes**
392	Portola Parkway	Culver Drive to Yale Avenue	68.6	69.7	69.8	1.2	1.5	No
393	Portola Parkway	Silverado to Portola Springs	66.5	68.6	68.7	2.2	1.5	**Yes**
394	Pusan	Irvine Boulevard to Cadence	54.0	56.2	56.1	2.1	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.3	67.5	67.5	0.2	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	64.8	65.4	65.4	0.6	3.0	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.4	54.9	55.0	0.6	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	70.8	71.6	71.7	0.9	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.6	70.2	70.3	0.7	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.5	70.1	70.1	0.6	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.3	69.9	70.1	0.8	1.5	No

402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.3	69.8	69.9	0.6	1.5	No
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	70.2	71.4	71.5	1.3	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	69.6	70.8	70.9	1.3	1.5	No
405	Research Drive	Hubble to Bake Parkway	65.4	69.6	69.7	4.3	1.5	**Yes**
406	Research Drive	Scientific to Lake Forest Drive	65.6	67.4	67.8	2.2	1.5	**Yes**
407	Research Drive	Bake Parkway to Muller	66.2	66.7	66.8	0.6	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	64.9	65.7	65.8	0.9	3.0	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	67.3	67.3	1.8	1.5	**Yes**
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	65.9	66.4	66.4	0.5	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	65.8	66.0	66.0	0.2	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.0	58.1	58.1	0.1	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	67.7	68.8	68.8	1.1	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	67.7	68.5	68.5	0.8	1.5	No
415	Rockfield Avenue	Whatney to McLaren	66.3	67.7	67.8	1.5	1.5	**Yes**
416	Rockfield Avenue	Bake Parkway to Whatney	62.5	64.3	64.4	1.9	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.5	63.1	63.2	0.7	3.0	No
418	Roosevelt	Jeffrey Road to Vision	65.2	66.6	66.7	1.5	1.5	**Yes**
419	Roosevelt	Yale Avenue to Van Buren	67.9	68.3	68.3	0.4	1.5	No
420	Roosevelt	Vision to Bay Tree	64.5	66.3	66.5	2.0	3.0	No
421	Roosevelt	Nimitz to Jeffrey Road	65.2	65.9	65.9	0.7	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	63.7	65.6	65.7	2.0	3.0	No
423	Royal Oak	Alton Parkway to Eaglecreek	63.8	64.0	64.0	0.2	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	72.2	72.2	1.5	1.5	**Yes**
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	70.6	72.0	72.0	1.4	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	73.6	74.7	74.7	1.1	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	72.7	72.8	1.6	1.5	**Yes**
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	74.6	74.8	2.1	1.5	**Yes**
429	Sand Canyon Avenue	Trabuco Road to Towngate	70.0	71.0	71.2	1.2	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	70.9	71.0	1.8	1.5	**Yes**
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	72.7	73.9	74.0	1.3	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	70.8	70.9	1.6	1.5	**Yes**
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.3	73.5	73.6	0.3	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	72.4	73.6	73.6	1.2	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.2	73.5	73.6	0.4	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	69.3	70.3	70.6	1.3	1.5	No
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	69.2	70.2	70.3	1.1	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	69.2	70.3	2.3	1.5	**Yes**

439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.6	72.8	72.8	0.2	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	69.7	70.8	70.9	1.2	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.3	71.8	71.8	0.5	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.6	55.0	55.0	0.4	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.6	69.3	69.4	0.8	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.1	67.7	67.8	0.7	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	59.6	59.5	6.7	5.0	**Yes**
446	Southwood	Yale Avenue to Colt	60.5	60.6	60.6	0.1	3.0	No
447	Southwood	Challenger to Yale Avenue	59.9	60.4	60.4	0.5	5.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.4	62.0	61.9	0.5	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.0	62.5	62.5	0.5	3.0	No
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	56.9	57.7	57.8	0.9	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	70.8	70.8	3.8	1.5	**Yes**
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	69.6	69.6	6.4	3.0	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	69.4	69.4	6.6	3.0	**Yes**
454	Technology Drive	Ada to Alton Parkway	57.8	63.7	63.7	5.9	5.0	**Yes**
455	Toledo Way	Bake Parkway to City Limits	65.5	65.6	65.6	0.1	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.5	64.7	64.7	0.2	3.0	No
457	Toledo Way	Alton Parkway to Parker	63.9	64.5	64.5	0.6	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	66.7	67.2	67.3	0.6	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.7	67.1	67.1	0.4	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.3	66.8	66.9	0.6	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.3	66.8	66.9	0.6	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.3	66.7	66.8	0.5	1.5	No
463	Trabuco Road	Yale Avenue to Remington	65.7	66.4	66.5	0.8	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	65.7	66.1	66.2	0.5	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	68.7	68.7	68.7	5.0	**Yes**
466	Turtle Rock Drive	Ridgeline to Willowleaf	66.9	67.9	67.9	1.0	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.0	67.8	67.8	0.8	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.7	67.1	67.1	0.4	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	63.9	64.0	64.0	0.1	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	63.8	64.1	64.2	0.4	3.0	No
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.3	65.5	65.4	0.1	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.2	73.0	73.1	0.9	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.1	72.6	72.6	0.5	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.1	72.9	72.9	0.8	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.0	72.4	72.4	0.4	1.5	No

476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.3	72.7	72.8	0.5	1.5	No
477	University Drive	Mesa to Campus Drive	73.3	74.5	74.6	1.3	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	73.3	74.4	74.7	1.4	1.5	No
479	University Drive	California Avenue to Mesa	73.3	74.4	74.5	1.2	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	69.5	70.7	70.8	1.3	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	70.4	71.6	71.8	1.4	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	69.2	70.2	70.4	1.2	1.5	No
483	University Drive	San Joaquin to Culver Drive	68.7	69.8	69.9	1.2	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	68.7	69.8	69.9	1.2	1.5	No
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	68.1	68.1	5.1	3.0	**Yes**
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	69.6	69.5	4.3	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	67.1	67.2	4.3	3.0	**Yes**
488	Valley Oak Drive	Alton Parkway to Hawkcreek	63.8	64.9	64.9	1.1	3.0	No
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	71.0	71.0	2.1	1.5	**Yes**
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	70.9	70.9	2.1	1.5	**Yes**
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	70.8	70.8	1.5	1.5	**Yes**
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	70.4	70.4	2.0	1.5	**Yes**
493	Von Karman Avenue	Main Street to Anchor	69.2	70.7	70.7	1.5	1.5	**Yes**
494	Von Karman Avenue	Anchor to McGaw Avenue	69.2	70.5	70.6	1.4	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.2	70.3	70.3	1.1	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	67.8	69.6	69.7	1.9	1.5	**Yes**
497	Von Karman Avenue	Campus Drive to Martin	67.8	69.5	69.6	1.8	1.5	**Yes**
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	69.5	69.6	1.8	1.5	**Yes**
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	70.9	71.0	2.1	1.5	**Yes**
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.6	69.1	69.2	0.6	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.2	68.8	68.9	0.7	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.2	68.8	68.8	0.6	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.0	68.5	68.6	0.6	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.0	68.5	68.5	0.5	1.5	No
505	Walnut Avenue	Culver Drive to Franciscan Street	68.0	68.4	68.4	0.4	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.0	68.0	68.1	1.1	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.0	67.9	67.9	0.9	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	66.3	67.3	67.3	1.0	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	66.3	67.2	67.2	0.9	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	69.6	70.2	70.1	0.5	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	67.8	68.6	68.6	0.8	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.1	67.1	67.1	1.0	1.5	No

513	Warner Avenue	Santa Ynez to Culver Drive	65.1	66.2	66.2	1.1	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	64.9	65.8	65.9	1.0	3.0	No
515	West Yale Loop	Alton Parkway to Blue Lake North	63.3	64.0	64.0	0.7	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.3	63.9	63.8	0.5	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	62.7	64.0	64.0	1.3	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.7	62.8	62.9	0.2	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	61.8	63.2	63.3	1.5	3.0	No
520	West Yale Loop	Warner Avenue to Stonecreek South	61.8	62.7	62.7	0.9	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	61.7	62.4	62.4	0.7	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	61.8	62.6	62.6	0.8	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	61.8	62.4	62.5	0.7	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.2	63.5	63.5	0.3	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.3	61.6	61.6	0.3	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.5	68.6	68.6	0.1	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.2	67.3	67.3	0.1	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.7	71.1	71.2	0.5	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	66.9	67.1	67.1	0.2	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.5	66.9	66.8	0.3	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	66.5	66.6	1.6	1.5	**Yes**
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.6	65.7	65.8	0.2	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.6	65.7	65.8	0.2	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.1	65.6	65.7	0.6	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.1	65.4	65.4	0.3	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	64.8	65.1	65.2	0.4	3.0	No
537	Yale Avenue	Bryan Avenue to Monticello	64.8	65.0	65.0	0.2	3.0	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.1	64.2	64.2	0.1	3.0	No
539	Yale Avenue	University Drive to Royce	57.9	63.6	63.5	5.6	5.0	**Yes**
540	Yale Court	Arborwood to Portola Parkway	60.0	60.4	60.4	0.4	1.5	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria ?

Table 15:Existing and Cumualtive Preferred Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]				Incremental Noise Level Increase Threshold[3]	
			Existing	Preferred	Cumulative Preferred	Cumulative Increase	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	70.8	70.8	70.8	5.0	**Yes**
2	Ada	Alton Parkway to Barranca PArkway	60.3	69.2	69.2	8.9	3.0	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	73.9	73.9	2.6	1.5	**Yes**
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	74.5	74.5	2.4	1.5	**Yes**
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.3	71.8	71.8	0.5	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	71.7	71.7	2.4	1.5	**Yes**
7	Alton Parkway	Jeffrey Road to Royal Oak	70.1	70.7	70.8	0.7	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	70.6	70.6	6.9	3.0	**Yes**
9	Alton Parkway	Culver Drive to West Yale Loop	70.4	70.6	70.6	0.2	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.3	70.6	70.6	0.3	1.5	No
11	Alton Parkway	Technology Drive West to Ada	70.2	72.4	72.4	2.2	1.5	**Yes**
12	Alton Parkway	Creek Road to East Yale Loop	70.1	70.5	70.6	0.5	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	70.4	70.5	2.4	1.5	**Yes**
14	Alton Parkway	Lake Road to Creek Road	70.1	70.3	70.3	0.2	1.5	No
15	Alton Parkway	Telemetry to Banting	69.0	70.3	70.4	1.4	1.5	No
16	Alton Parkway	Irvine Boulevard to Commercentre	70.3	70.8	70.9	0.6	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.0	70.3	70.3	1.3	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	71.0	71.0	2.4	1.5	**Yes**
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	73.7	73.7	1.6	1.5	**Yes**
20	Alton Parkway	Laguna Canyon Road to Jenner	69.0	70.2	70.2	1.2	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	70.8	70.8	1.7	1.5	**Yes**
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.4	70.0	70.0	0.6	1.5	No
23	Alton Parkway	Banting to Pacifica	68.4	69.9	69.9	1.5	1.5	**Yes**
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.1	70.3	70.3	0.2	1.5	No
25	Alton Parkway	Ada to Technology Drive East	69.2	70.3	70.3	1.1	1.5	No
26	Alton Parkway	Von Karman Avenue to Jamboree Road	68.7	69.6	69.7	1.0	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.8	70.0	70.0	0.2	1.5	No
28	Alton Parkway	Hughes to Morgan	69.5	69.8	69.8	0.3	1.5	No
29	Alton Parkway	Morgan to Toledo Way	68.8	69.0	69.0	0.2	1.5	No
30	Alton Parkway	San Marino to Culver Drive	68.8	69.1	69.1	0.3	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.0	68.9	69.1	1.1	1.5	No

Table 15

32	Alton Parkway	Hospital to Laguna Canyon Road	70.7	71.9	72.0	1.3	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.1	71.8	71.8	0.7	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.1	68.7	68.9	0.8	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	68.0	68.7	68.7	0.7	1.5	No
36	Alton Parkway	Fairbanks to Foster	67.5	68.4	68.5	1.0	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.2	68.4	68.4	0.2	1.5	No
38	Alton Parkway	Pacifica to Meridian	69.7	71.5	71.6	1.9	1.5	**Yes**
39	Alton Parkway	Bertea to Fairbanks	68.1	68.3	68.3	0.2	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	68.2	68.2	1.6	1.5	**Yes**
41	Alton Parkway	Paseo Westpark to San Marino	67.9	68.1	68.2	0.3	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	66.9	67.5	67.7	0.8	1.5	No
43	Astor	Lynx to Fairbanks	57.5	67.0	67.0	9.5	5.0	**Yes**
44	Astor	Cadence to Lynx	0.0	65.8	65.8	65.8	5.0	**Yes**
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	75.4	76.6	76.6	1.2	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.7	72.9	72.9	0.2	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	74.7	75.0	75.0	0.3	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	71.9	72.0	72.0	0.1	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.5	71.6	71.7	0.2	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.4	71.6	71.6	0.2	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	68.5	69.5	69.6	1.1	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.1	64.8	65.0	0.9	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	61.9	63.4	63.7	1.8	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	57.6	60.2	60.1	2.5	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	73.1	73.1	2.6	1.5	**Yes**
56	Barranca Parkway	Banting to Pacifica	70.7	72.7	72.7	2.0	1.5	**Yes**
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	72.6	72.7	2.9	1.5	**Yes**
58	Barranca Parkway	Technology Drive West to Ada	70.4	72.6	72.6	2.2	1.5	**Yes**
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	72.3	72.4	3.1	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	71.9	72.2	72.2	0.3	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	72.1	72.1	0.4	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.6	72.0	72.0	0.4	1.5	No
63	Barranca Parkway	Ada to Alton Parkway	70.2	72.0	72.0	1.8	1.5	**Yes**
64	Barranca Parkway	Lake Road to Creek Road	71.2	71.7	71.7	0.5	1.5	No
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	74.7	74.7	1.4	1.5	No
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	71.6	71.6	1.9	1.5	**Yes**
67	Barranca Parkway	Lyon to East Yale Loop	71.0	71.5	71.5	0.5	1.5	No
68	Barranca Parkway	Creek Road to Lyon	70.9	71.4	71.4	0.5	1.5	No

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69	Barranca Parkway	Von Karman Avenue to Jamboree Road	71.5	72.7	72.7	1.2	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	70.8	70.8	2.3	1.5	**Yes**
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.0	72.3	72.4	0.4	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	70.6	70.7	1.6	1.5	**Yes**
73	Barranca Parkway	Jamboree Road to Construction Circle	70.1	71.0	71.1	1.0	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	69.8	70.9	71.0	1.2	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	70.2	70.3	1.5	1.5	**Yes**
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	70.2	70.3	2.0	1.5	**Yes**
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	70.1	70.1	1.3	1.5	No
78	Barranca Parkway	Pullman Street to Red Hill Avenue	72.7	73.6	73.6	0.9	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	69.4	70.5	70.5	1.1	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	69.4	70.5	70.5	1.1	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	69.3	70.4	70.5	1.2	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.2	70.1	70.2	1.0	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	56.1	57.2	57.2	1.1	5.0	No
84	Beacon	Ridge Valley to Benchmark	0.0	59.6	59.7	59.7	5.0	**Yes**
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	56.5	56.5	56.5	5.0	**Yes**
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	68.6	69.6	69.7	1.1	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.0	70.3	70.3	0.3	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	67.5	68.6	68.6	1.1	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	67.5	68.2	68.2	0.7	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.5	68.0	68.0	0.5	1.5	No
91	Bosque	Cadence to Great Park Boulevard	63.0	65.2	65.2	2.2	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	59.7	63.5	63.5	3.8	5.0	No
93	Bosque	Benchmark to Cadence	59.7	63.1	63.1	3.4	5.0	No
94	Bosque	Great Park Boulevard to Beacon	0.0	56.7	56.7	56.7	5.0	**Yes**
95	Bosque	Beacon to S 5th Street	0.0	56.1	56.1	56.1	5.0	**Yes**
96	Bryan Avenue	Jamboree Road to Market Place	68.7	68.9	69.0	0.3	1.5	No
97	Bryan Avenue	Market Place to El Camino Real	68.7	68.9	68.9	0.2	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.7	68.9	68.9	0.2	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.7	68.8	68.9	0.2	1.5	No
100	Bryan Avenue	Eastwood to Jeffrey Road	65.8	66.9	67.0	1.2	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.6	66.7	0.4	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.3	66.6	66.6	0.3	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	65.8	66.4	66.5	0.7	1.5	No
104	Cadence	Pusan to Chinon	64.5	65.6	65.6	1.1	3.0	No
105	Cadence	Bosque to Pusan	65.7	65.3	65.3	-0.4	1.5	No

106	Cadence	Ridge Valley (O Street) to Bosque	62.6	63.9	63.9	1.3	3.0	No
107	Cadence	Chinon to Merit	62.6	62.2	62.2	-0.4	3.0	No
108	Cadence	Merit to Astor	0.0	59.4	59.4	59.4	5.0	**Yes**
109	California Avenue	University Drive to Academy Way	64.3	66.2	67.2	2.9	3.0	No
110	California Avenue	Campus Drive to Harvard Avenue	63.2	64.2	64.2	1.0	3.0	No
111	California Avenue	Theory to Bison Avenue	63.1	63.9	64.0	0.9	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	70.9	73.2	73.3	2.4	1.5	**Yes**
113	Campus Drive	University Drive to Bridge Road	70.1	71.8	71.7	1.6	1.5	**Yes**
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	71.5	71.5	2.5	1.5	**Yes**
115	Campus Drive	Stanford Court to Berkeley Avenue	70.1	71.1	71.0	0.9	1.5	No
116	Campus Drive	California Avenue to Culver Drive	68.9	70.9	70.9	2.0	1.5	**Yes**
117	Campus Drive	Berkeley Avenue to Cornell	68.9	70.0	69.9	1.0	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	67.5	69.0	69.1	1.6	1.5	**Yes**
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.5	68.7	68.7	0.2	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	68.3	68.5	1.7	1.5	**Yes**
121	Campus Drive	MacArthur Boulevard to Martin	67.5	68.2	68.3	0.8	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	66.8	67.5	67.5	0.7	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	67.9	67.9	3.4	3.0	**Yes**
124	Chinon	Irvine Boulevard to Cadence	56.6	59.0	59.0	2.4	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	55.3	56.1	56.2	0.9	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.4	73.9	73.9	0.5	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.4	73.8	73.8	0.4	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.7	73.9	73.9	0.2	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.7	73.9	73.9	0.2	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.4	73.6	73.6	0.2	1.5	No
131	Culver Drive	San Leandro to Main Street	73.2	73.3	73.3	0.1	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	72.7	73.3	73.3	0.6	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.1	74.3	74.2	0.1	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	72.9	73.2	73.2	0.3	1.5	No
135	Culver Drive	Main Street to Alton Parkway	72.7	73.1	73.1	0.4	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	72.7	73.0	73.0	0.3	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.6	72.9	72.9	0.3	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.6	72.8	72.9	0.3	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	71.4	72.0	72.0	0.6	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.3	72.5	72.5	0.2	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	71.9	72.5	72.5	0.6	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.1	72.4	72.4	0.3	1.5	No

Table 15

143	Culver Drive	Palo Verde to Campus Drive	71.4	71.6	71.6	0.2	1.5	No
144	Culver Drive	University Drive to Sandburg Way	71.5	72.2	72.2	0.7	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	72.8	73.2	73.2	0.4	1.5	No
146	Culver Drive	Campus Drive to High School	71.6	72.1	72.1	0.5	1.5	No
147	Culver Drive	High School to Harvard Avenue	71.6	72.0	72.0	0.4	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.5	71.8	71.8	0.3	1.5	No
149	Culver Drive	Portola Parkway to Settlers	68.9	71.1	71.2	2.3	1.5	**Yes**
150	Culver Drive	Florence to Irvine Boulevard	71.3	71.7	71.7	0.4	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.0	70.5	70.5	0.5	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.0	70.4	70.4	0.4	1.5	No
153	Culver Drive	Settlers to Furrow	0.0	68.4	68.5	68.5	5.0	**Yes**
154	Culver Drive	Meadowood to Portola Parkway	68.3	69.0	69.0	0.7	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	64.0	64.0	7.4	5.0	**Yes**
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	61.2	61.2	61.2	5.0	**Yes**
157	East Yale Loop	Alton Parkway to Witherspoon	64.6	65.5	65.5	0.9	3.0	No
158	East Yale Loop	Osborn Street to Barranca Parkway	64.3	65.3	65.3	1.0	3.0	No
159	East Yale Loop	Yale Avenue to Springbrook South	62.3	64.8	64.9	2.6	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	62.3	63.5	63.6	1.3	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.3	62.7	62.7	0.4	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.3	62.4	62.4	0.1	3.0	No
163	Eastwood	Bryan Avenue to Monticello	59.5	60.8	60.8	1.3	5.0	No
164	Eastwood	Columbus to Bryan Avenue	58.5	58.7	58.8	0.3	5.0	No
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	66.9	67.1	67.1	0.2	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.2	62.4	62.4	0.2	3.0	No
167	Fairbanks	Alton Parkway to Astor	61.3	69.7	69.8	8.5	3.0	**Yes**
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	66.9	66.9	66.9	5.0	**Yes**
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	63.3	64.1	64.0	0.7	3.0	No
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	63.3	63.3	6.3	5.0	**Yes**
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	59.4	62.1	62.1	2.7	5.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	56.8	59.1	59.2	2.4	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	74.4	74.5	4.0	1.5	**Yes**
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	70.2	70.2	6.2	3.0	**Yes**
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	68.8	68.9	68.9	5.0	**Yes**
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	68.3	68.3	68.3	5.0	**Yes**
177	Harvard Avenue	University Drive to Michelson Drive	71.2	72.0	72.0	0.8	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	69.5	70.4	70.5	1.0	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	69.4	70.1	70.2	0.8	1.5	No

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180	Harvard Avenue	Coronado to Main Street	69.3	70.1	70.2	0.9	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.4	70.0	70.1	0.7	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.3	70.0	70.0	0.7	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.5	68.8	68.6	0.1	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.5	68.8	68.7	0.2	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.4	68.6	68.6	0.2	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	67.4	67.4	1.9	1.5	**Yes**
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	67.3	67.4	1.9	1.5	**Yes**
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.6	67.8	67.9	0.3	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.2	67.8	67.8	0.6	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	67.8	67.8	1.7	1.5	**Yes**
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	68.7	68.8	2.0	1.5	**Yes**
192	Harvard Avenue	California Avenue to Berkeley Avenue	66.1	67.2	67.2	1.1	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.1	67.2	67.2	1.1	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	66.1	67.1	67.1	1.0	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	65.9	66.8	66.8	0.9	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	58.2	58.2	0.0	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	57.5	57.6	57.6	5.0	**Yes**
198	Hubble	Irvine Center Drive to Bunsen	55.5	55.9	56.1	0.6	5.0	No
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.1	72.3	72.3	0.2	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.0	72.2	72.1	0.1	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	72.9	73.1	73.1	0.2	1.5	No
202	Irvine Boulevard	Merit to Alton	71.4	71.6	71.6	0.2	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.4	71.6	71.7	0.3	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.9	71.2	71.1	0.2	1.5	No
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	70.8	71.0	71.0	0.2	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.4	71.1	71.2	0.8	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.5	71.0	71.1	0.6	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	70.9	71.0	0.5	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.3	71.0	71.0	0.7	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.5	70.9	71.0	0.5	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.3	70.9	70.9	0.6	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.3	70.9	70.9	0.6	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.6	70.8	71.0	0.4	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	69.8	70.6	70.7	0.9	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/ The Groves to Jeffrey Road	70.2	70.6	70.6	0.4	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.2	70.5	70.5	0.3	1.5	No

217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.1	70.5	70.5	0.4	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	69.9	70.3	70.4	0.5	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	69.9	70.3	70.4	0.5	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.0	70.2	70.2	0.2	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.5	69.9	69.9	0.4	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.0	69.5	69.7	0.7	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.4	68.6	68.6	0.2	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	72.6	72.7	1.4	1.5	No
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	71.8	71.9	2.2	1.5	**Yes**
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	70.9	72.1	72.3	1.4	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	71.7	71.8	2.1	1.5	**Yes**
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	71.5	71.5	2.0	1.5	**Yes**
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	71.4	71.5	1.8	1.5	**Yes**
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	71.4	71.4	1.8	1.5	**Yes**
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	71.4	71.5	2.1	1.5	**Yes**
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	71.3	71.4	1.7	1.5	**Yes**
233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	71.0	71.1	2.2	1.5	**Yes**
234	Irvine Center Drive	Spectrum to Pacifica	68.9	71.0	71.0	2.1	1.5	**Yes**
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	70.9	70.9	1.7	1.5	**Yes**
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	70.6	70.7	2.6	1.5	**Yes**
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	69.7	70.5	70.5	0.8	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	70.5	70.6	1.5	1.5	**Yes**
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	70.5	70.5	2.4	1.5	**Yes**
240	Irvine Center Drive	Harvard Avenue to Hearthstone	69.2	70.2	70.2	1.0	1.5	No
241	Irvine Center Drive	Research to Hubble	67.9	69.7	70.0	2.1	1.5	**Yes**
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	69.8	69.9	3.0	1.5	**Yes**
243	Irvine Center Drive	Bake Parkway to Muller	67.9	69.7	69.9	2.0	1.5	**Yes**
244	Irvine Center Drive	Discovery to Charter	67.3	69.8	69.9	2.6	1.5	**Yes**
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	69.5	69.6	1.8	1.5	**Yes**
246	Irvine Center Drive	Muller to Tesla	67.7	69.3	69.4	1.7	1.5	**Yes**
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	69.2	69.2	1.6	1.5	**Yes**
248	Irvine Center Drive	Tesla to Scientific Way	67.1	68.9	69.1	2.0	1.5	**Yes**
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	68.7	68.9	1.7	1.5	**Yes**
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	68.6	68.7	2.0	1.5	**Yes**
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	68.6	68.7	1.9	1.5	**Yes**
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	68.5	68.6	1.8	1.5	**Yes**
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	70.9	70.9	1.3	1.5	No

254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.3	74.5	74.5	0.2	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.1	75.6	75.6	0.5	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.5	73.9	73.9	0.4	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.5	77.0	77.0	0.5	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.5	73.6	73.7	0.2	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	75.7	76.3	76.4	0.7	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	73.6	74.3	74.3	0.7	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.5	76.0	76.0	0.5	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.4	75.9	76.0	0.6	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.1	72.9	73.0	0.9	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.3	73.8	73.9	0.6	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.2	75.5	75.6	0.4	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	72.2	73.4	73.5	1.3	1.5	No
267	Jamboree Road	Beckman to Barranca Parkway	75.0	75.2	75.3	0.3	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	74.9	75.1	75.1	0.2	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.5	73.1	73.1	0.6	1.5	No
270	Jamboree Road	El Camino Real to West Drive	74.9	75.0	74.9	0.0	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	74.9	75.0	75.0	0.1	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.5	74.7	74.6	0.1	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	71.7	72.7	72.7	1.0	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	71.8	72.6	72.7	0.9	1.5	No
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.0	70.7	70.7	0.7	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.0	79.1	79.1	0.1	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.1	78.3	78.3	0.2	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.8	78.0	78.0	0.2	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	70.9	71.3	71.4	0.5	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	71.8	72.2	72.3	0.5	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.4	70.9	70.9	0.5	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.3	70.8	70.8	0.5	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.2	70.7	70.7	0.5	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.4	70.7	70.8	0.4	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.3	70.6	70.6	0.3	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.4	70.6	70.7	0.3	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.1	70.4	70.4	0.3	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.4	69.6	69.7	0.3	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.4	69.6	69.7	0.3	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.0	70.4	70.4	0.4	1.5	No

291	Jeffrey Road	Grove to Trabuco Road	70.0	70.2	70.2	0.2	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.1	68.5	68.5	0.4	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	64.0	65.8	65.6	1.6	3.0	No
294	Jeffrey Road	Irvine Boulevard to Encore	64.0	65.5	65.4	1.4	3.0	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.4	64.6	64.5	0.1	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.1	64.3	64.3	0.2	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	72.6	73.3	73.4	0.8	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	69.9	70.0	2.3	1.5	**Yes**
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	69.1	69.1	4.3	3.0	**Yes**
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	67.9	68.0	2.0	1.5	**Yes**
301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	67.5	67.5	3.9	3.0	**Yes**
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	67.9	68.0	2.0	1.5	**Yes**
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	66.9	67.0	1.5	1.5	**Yes**
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	66.4	66.4	1.9	3.0	No
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	64.8	66.1	66.1	1.3	3.0	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	63.9	65.6	65.6	1.7	3.0	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	68.3	69.3	69.5	1.2	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	68.3	69.3	69.5	1.2	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	65.3	66.3	66.6	1.3	1.5	No
310	Lake Road	Alton Parkway to Barranca Parkway	59.0	59.2	59.2	0.2	5.0	No
311	Lynx	Irvine Boulevard to Astor	0.0	53.2	53.2	53.2	5.0	**Yes**
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.0	76.7	76.7	0.7	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	75.8	76.6	76.7	0.9	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	75.7	76.6	76.6	0.9	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.7	69.9	69.9	0.2	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.7	69.9	69.8	0.1	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.4	70.5	70.5	0.1	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.3	72.1	72.2	0.9	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.3	72.1	72.2	0.9	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.0	69.5	69.5	0.5	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.0	68.3	68.4	0.4	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.5	67.0	67.1	0.6	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	68.5	69.3	69.4	0.9	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	70.7	70.8	1.4	1.5	No
325	Main Street	MacArthur Boulevard to Mercantile	69.4	70.2	70.3	0.9	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	67.7	68.4	68.4	0.7	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.2	68.3	68.4	1.2	1.5	No

328	Main Street	McDurmott to Red Hill Avenue	67.9	68.1	68.1	0.2	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.7	68.0	68.0	0.3	1.5	No
330	Main Street	Jamboree Road to Union	67.4	67.8	67.8	0.4	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.0	67.1	67.2	0.2	1.5	No
332	Main Street	Siglo to Jamboree Road	67.2	67.7	67.7	0.5	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.4	67.5	67.5	0.1	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.2	66.4	66.3	0.1	1.5	No
335	Main Street	Harvard Avenue to San Mateo	66.2	66.4	66.3	0.1	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	72.3	72.3	4.5	1.5	**Yes**
337	Marine Way	Alton Parkway to Bake Parkway	0.0	69.3	69.3	69.3	5.0	**Yes**
338	Marine Way	Lynx to Barranca Parkway	0.0	69.3	69.3	69.3	5.0	**Yes**
339	Marine Way	County Access to Treble	59.3	68.4	68.4	9.1	5.0	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	68.2	68.2	6.2	3.0	**Yes**
341	Marine Way	Skyhawk to County Access	59.3	67.1	67.2	7.9	5.0	**Yes**
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	66.8	66.8	14.1	5.0	**Yes**
343	Marine Way	Treble to Lynx	0.0	66.4	66.4	66.4	5.0	**Yes**
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	62.2	64.3	64.3	2.1	3.0	No
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	62.1	64.1	64.2	2.1	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	61.0	62.4	62.5	1.5	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	57.6	59.3	59.4	1.8	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.5	59.8	59.8	0.3	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.7	55.3	55.5	0.8	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	53.5	54.6	54.7	1.2	5.0	No
351	Merit	Irvine Boulevard to Cadence	59.3	57.9	58.0	-1.3	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	66.7	68.3	68.3	1.6	1.5	**Yes**
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.3	67.1	67.1	0.8	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	66.7	68.0	68.0	1.3	1.5	No
355	Michelson Drive	Parkside to Culver Drive	66.2	67.8	67.8	1.6	1.5	**Yes**
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.3	66.8	66.8	0.5	1.5	No
357	Michelson Drive	Carlson to Prince	65.4	67.3	67.3	1.9	1.5	**Yes**
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	66.7	67.3	67.3	0.6	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.2	66.8	66.8	0.6	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	64.9	66.7	66.7	1.8	3.0	No
361	Michelson Drive	Jamboree Road to Carlson	68.0	69.6	69.6	1.6	1.5	**Yes**
362	Michelson Drive	Teller to Jamboree Road	68.7	69.6	69.6	0.9	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.6	66.9	66.9	0.3	1.5	No
364	Michelson Drive	Culver Drive to Angell	65.9	66.2	66.2	0.3	1.5	No

365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	70.7	71.7	71.7	1.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	61.4	61.1	61.0	-0.4	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	66.4	67.1	67.2	0.8	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.1	66.3	66.3	0.2	1.5	No
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.1	66.3	66.3	0.2	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	65.9	66.6	66.6	0.7	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.0	65.1	65.1	0.1	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	60.8	61.9	61.8	1.0	3.0	No
373	Northwood	Yale Avenue to Savannah	62.3	62.5	62.5	0.2	3.0	No
374	Northwood	Goldrush to Yale Avenue	60.5	61.5	61.5	1.0	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	69.2	69.2	3.0	1.5	**Yes**
376	Pacifica	Gateway to Barranca Parkway	63.3	65.2	65.2	1.9	3.0	No
377	Pacifica	Alton Parkway to Gateway	61.8	64.0	64.0	2.2	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	61.7	62.7	62.8	1.1	3.0	No
379	Pacifica	Meridian to Alton Parkway	58.1	60.8	60.8	2.7	5.0	No
380	Park Place	Christamon South to Yale Avenue	56.8	57.0	57.0	0.2	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	71.5	71.7	1.4	1.5	No
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	71.5	71.7	1.4	1.5	No
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	71.4	71.5	1.9	1.5	**Yes**
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	71.0	71.1	1.5	1.5	**Yes**
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	70.1	70.1	4.6	1.5	**Yes**
386	Portola Parkway	Gatepark to Culver Drive	69.6	70.6	70.7	1.1	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	69.6	70.5	70.7	1.1	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	69.6	70.4	70.5	0.9	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	69.6	70.4	70.5	0.9	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	69.6	70.3	70.4	0.8	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	70.1	70.2	1.6	1.5	**Yes**
392	Portola Parkway	Culver Drive to Yale Avenue	68.6	69.6	69.7	1.1	1.5	No
393	Portola Parkway	Silverado to Portola Springs	66.5	68.5	68.6	2.1	1.5	**Yes**
394	Pusan	Irvine Boulevard to Cadence	54.0	56.2	56.1	2.1	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.3	67.4	67.4	0.1	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	64.8	65.5	65.5	0.7	3.0	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.4	54.8	54.9	0.5	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	70.8	71.5	71.6	0.8	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.6	70.1	70.2	0.6	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.5	70.0	70.1	0.6	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.3	69.9	70.0	0.7	1.5	No

402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.3	69.8	69.9	0.6	1.5	No
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	70.2	71.3	71.4	1.2	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	69.6	70.6	70.8	1.2	1.5	No
405	Research Drive	Hubble to Bake Parkway	65.4	69.5	69.5	4.1	1.5	**Yes**
406	Research Drive	Scientific to Lake Forest Drive	65.6	67.4	67.8	2.2	1.5	**Yes**
407	Research Drive	Bake Parkway to Muller	66.2	66.6	66.7	0.5	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	64.9	65.6	65.7	0.8	3.0	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	67.3	67.3	1.8	1.5	**Yes**
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	65.9	66.4	66.4	0.5	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	65.8	66.0	66.0	0.2	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.0	58.1	58.1	0.1	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	67.7	68.7	68.7	1.0	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	67.7	68.4	68.4	0.7	1.5	No
415	Rockfield Avenue	Whatney to McLaren	66.3	67.6	67.7	1.4	1.5	No
416	Rockfield Avenue	Bake Parkway to Whatney	62.5	64.1	64.2	1.7	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.5	63.1	63.1	0.6	3.0	No
418	Roosevelt	Jeffrey Road to Vision	65.2	66.5	66.6	1.4	1.5	No
419	Roosevelt	Yale Avenue to Van Buren	67.9	68.2	68.2	0.3	1.5	No
420	Roosevelt	Vision to Bay Tree	64.5	66.2	66.4	1.9	3.0	No
421	Roosevelt	Nimitz to Jeffrey Road	65.2	65.9	65.9	0.7	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	63.7	65.6	65.7	2.0	3.0	No
423	Royal Oak	Alton Parkway to Eaglecreek	63.8	64.0	64.0	0.2	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	72.1	72.1	1.4	1.5	No
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	70.6	71.9	72.0	1.4	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	73.6	74.6	74.6	1.0	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	72.7	72.7	1.5	1.5	**Yes**
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	74.6	74.8	2.1	1.5	**Yes**
429	Sand Canyon Avenue	Trabuco Road to Towngate	70.0	71.1	71.3	1.3	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	70.8	70.9	1.7	1.5	**Yes**
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	72.7	73.8	74.0	1.3	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	70.6	70.6	1.3	1.5	No
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.3	73.5	73.5	0.2	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	72.4	73.5	73.5	1.1	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.2	73.5	73.7	0.5	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	69.3	70.4	70.7	1.4	1.5	No
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	69.2	70.2	70.3	1.1	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	69.2	70.4	2.4	1.5	**Yes**

439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.6	72.8	72.8	0.2	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	69.7	70.6	70.6	0.9	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.3	71.7	71.8	0.5	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.6	55.0	54.9	0.3	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.6	69.2	69.2	0.6	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.1	67.5	67.6	0.5	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	59.6	59.6	6.8	5.0	**Yes**
446	Southwood	Yale Avenue to Colt	60.5	60.5	60.6	0.1	3.0	No
447	Southwood	Challenger to Yale Avenue	59.9	60.2	60.3	0.4	5.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.4	61.9	62.0	0.6	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.0	62.4	62.5	0.5	3.0	No
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	56.9	57.6	57.6	0.7	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	70.6	70.6	3.6	1.5	**Yes**
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	69.2	69.3	6.1	3.0	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	69.1	69.1	6.3	3.0	**Yes**
454	Technology Drive	Ada to Alton Parkway	57.8	63.0	63.1	5.3	5.0	**Yes**
455	Toledo Way	Bake Parkway to City Limits	65.5	65.7	65.7	0.2	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.5	64.7	64.7	0.2	3.0	No
457	Toledo Way	Alton Parkway to Parker	63.9	64.3	64.4	0.5	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	66.7	67.1	67.2	0.5	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.7	66.9	66.9	0.2	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.3	66.7	66.8	0.5	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.3	66.6	66.7	0.4	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.3	66.5	66.6	0.3	1.5	No
463	Trabuco Road	Yale Avenue to Remington	65.7	66.2	66.3	0.6	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	65.7	66.0	66.1	0.4	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	68.8	68.7	68.7	5.0	**Yes**
466	Turtle Rock Drive	Ridgeline to Willowleaf	66.9	67.8	67.8	0.9	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.0	67.7	67.8	0.8	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.7	67.0	67.0	0.3	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	63.9	64.0	64.0	0.1	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	63.8	64.1	64.0	0.2	3.0	No
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.3	65.4	65.4	0.1	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.2	72.9	73.0	0.8	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.1	72.5	72.6	0.5	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.1	72.8	72.9	0.8	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.0	72.3	72.4	0.4	1.5	No

476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.3	72.7	72.7	0.4	1.5	No
477	University Drive	Mesa to Campus Drive	73.3	74.5	74.6	1.3	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	73.3	74.4	74.6	1.3	1.5	No
479	University Drive	California Avenue to Mesa	73.3	74.3	74.4	1.1	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	69.5	70.6	70.7	1.2	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	70.4	71.5	71.7	1.3	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	69.2	70.1	70.3	1.1	1.5	No
483	University Drive	San Joaquin to Culver Drive	68.7	69.7	69.8	1.1	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	68.7	69.7	69.8	1.1	1.5	No
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	68.0	68.0	5.0	3.0	**Yes**
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	69.0	69.1	3.9	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	66.7	66.8	3.9	3.0	**Yes**
488	Valley Oak Drive	Alton Parkway to Hawkcreek	63.8	64.8	64.8	1.0	3.0	No
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	70.9	70.9	2.0	1.5	**Yes**
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	70.7	70.8	2.0	1.5	**Yes**
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	70.7	70.7	1.4	1.5	No
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	70.3	70.4	2.0	1.5	**Yes**
493	Von Karman Avenue	Main Street to Anchor	69.2	70.6	70.6	1.4	1.5	No
494	Von Karman Avenue	Anchor to McGaw Avenue	69.2	70.4	70.5	1.3	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.2	70.2	70.2	1.0	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	67.8	69.5	69.6	1.8	1.5	**Yes**
497	Von Karman Avenue	Campus Drive to Martin	67.8	69.5	69.5	1.7	1.5	**Yes**
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	69.5	69.5	1.7	1.5	**Yes**
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	70.9	70.9	2.0	1.5	**Yes**
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.6	69.1	69.1	0.5	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.2	68.7	68.8	0.6	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.2	68.7	68.7	0.5	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.0	68.4	68.5	0.5	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.0	68.4	68.3	0.3	1.5	No
505	Walnut Avenue	Culver Drive to Franciscan Street	68.0	68.3	68.4	0.4	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.0	67.9	68.0	1.0	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.0	67.8	67.8	0.8	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	66.3	67.1	67.2	0.9	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	66.3	67.1	67.2	0.9	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	69.6	70.2	70.1	0.5	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	67.8	68.6	68.5	0.7	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.1	67.0	67.0	0.9	1.5	No

513	Warner Avenue	Santa Ynez to Culver Drive	65.1	66.0	66.0	0.9	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	64.9	65.7	65.7	0.8	3.0	No
515	West Yale Loop	Alton Parkway to Blue Lake North	63.3	64.0	64.0	0.7	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.3	63.8	63.9	0.6	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	62.7	63.9	63.9	1.2	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.7	62.9	62.8	0.1	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	61.8	62.9	63.0	1.2	3.0	No
520	West Yale Loop	Warner Avenue to Stonecreek South	61.8	62.6	62.6	0.8	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	61.7	62.4	62.4	0.7	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	61.8	62.4	62.5	0.7	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	61.8	62.3	62.3	0.5	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.2	63.6	63.5	0.3	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.3	61.5	61.5	0.2	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.5	68.6	68.6	0.1	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.2	67.3	67.3	0.1	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.7	71.0	71.0	0.3	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	66.9	67.0	67.1	0.2	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.5	66.9	66.9	0.4	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	66.3	66.4	1.4	1.5	No
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.6	65.7	65.7	0.1	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.6	65.7	65.7	0.1	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.1	65.6	65.7	0.6	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.1	65.4	65.5	0.4	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	64.8	65.1	65.1	0.3	3.0	No
537	Yale Avenue	Bryan Avenue to Monticello	64.8	65.0	65.0	0.2	3.0	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.1	64.3	64.3	0.2	3.0	No
539	Yale Avenue	University Drive to Royce	57.9	63.4	63.5	5.6	5.0	**Yes**
540	Yale Court	Arborwood to Portola Parkway	60.0	60.3	60.3	0.3	1.5	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria ?

Table 16: Current General Plan and Cumulative Conservative Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]				Incremental Noise Level Increase Threshold[3]	
			Current GeneraL Plan	Conservative	Cumulative Conservative	Cumulative Increase	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	70.8	70.8	70.8	5.0	**Yes**
2	Ada	Alton Parkway to Barranca PArkway	67.1	69.3	69.3	2.2	1.5	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	72.6	74.1	74.1	1.5	1.5	**Yes**
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	73.3	74.8	74.8	1.5	1.5	**Yes**
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.5	71.8	71.8	0.3	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	70.5	72.0	72.0	1.5	1.5	**Yes**
7	Alton Parkway	Jeffrey Road to Royal Oak	70.4	70.9	70.9	0.5	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.4	70.7	70.7	0.3	1.5	No
9	Alton Parkway	Culver Drive to West Yale Loop	70.5	70.7	70.7	0.2	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.5	70.7	70.7	0.2	1.5	No
11	Alton Parkway	Technology Drive West to Ada	71.4	72.6	72.6	1.2	1.5	No
12	Alton Parkway	Creek Road to East Yale Loop	70.3	70.6	70.7	0.4	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	69.9	70.5	70.6	0.7	1.5	No
14	Alton Parkway	Lake Road to Creek Road	70.3	70.4	70.4	0.1	1.5	No
15	Alton Parkway	Telemetry to Banting	69.8	70.4	70.5	0.7	1.5	No
16	Alton Parkway	Irvine Boulevard to Commercentre	71.0	70.8	70.8	-0.2	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.7	70.4	70.4	0.7	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	69.8	71.2	71.3	1.5	1.5	**Yes**
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.6	73.7	73.7	0.1	1.5	No
20	Alton Parkway	Laguna Canyon Road to Jenner	69.7	70.3	70.3	0.6	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	70.4	71.2	71.2	0.8	1.5	No
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.7	70.1	70.1	0.4	1.5	No
23	Alton Parkway	Banting to Pacifica	69.3	70.0	70.1	0.8	1.5	No
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.3	70.9	71.0	0.7	1.5	No
25	Alton Parkway	Ada to Technology Drive East	70.2	70.7	70.7	0.5	1.5	No
26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.2	69.7	69.8	0.6	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.9	69.9	69.9	0.0	1.5	No
28	Alton Parkway	Hughes to Morgan	69.7	69.8	69.8	0.1	1.5	No
29	Alton Parkway	Morgan to Toledo Way	69.0	69.1	69.1	0.1	1.5	No
30	Alton Parkway	San Marino to Culver Drive	69.0	69.2	69.2	0.2	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.6	69.0	69.2	0.6	1.5	No

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32	Alton Parkway	Hospital to Laguna Canyon Road	71.5	72.0	72.1	0.6	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.4	71.8	71.9	0.5	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.5	68.8	69.0	0.5	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	69.0	68.7	68.7	-0.3	1.5	No
36	Alton Parkway	Fairbanks to Foster	68.7	68.5	68.6	-0.1	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.4	68.4	68.4	0.0	1.5	No
38	Alton Parkway	Pacifica to Meridian	70.7	71.7	71.7	1.0	1.5	No
39	Alton Parkway	Bertea to Fairbanks	68.3	68.3	68.3	0.0	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	67.5	68.3	68.3	0.8	1.5	No
41	Alton Parkway	Paseo Westpark to San Marino	68.0	68.3	68.3	0.3	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.1	67.7	67.9	0.8	1.5	No
43	Astor	Lynx to Fairbanks	66.9	67.1	67.1	0.2	1.5	No
44	Astor	Cadence to Lynx	66.0	65.9	65.9	-0.1	1.5	No
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.4	76.7	76.7	0.3	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.9	73.0	73.1	0.2	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.1	75.1	75.1	0.0	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	72.0	72.1	72.2	0.2	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.6	71.7	71.7	0.1	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	71.6	71.6	0.0	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.3	69.6	69.7	0.4	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.6	64.9	65.1	0.5	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.0	63.4	63.7	0.7	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	59.3	60.3	60.3	1.0	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	71.7	73.3	73.3	1.6	1.5	**Yes**
56	Barranca Parkway	Banting to Pacifica	71.8	72.8	72.8	1.0	1.5	No
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	70.9	73.0	73.0	2.1	1.5	**Yes**
58	Barranca Parkway	Technology Drive West to Ada	71.5	72.7	72.7	1.2	1.5	No
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	70.8	72.6	72.6	1.8	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	72.0	72.3	72.3	0.3	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	72.2	72.3	0.6	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.8	72.1	72.1	0.3	1.5	No
63	Barranca Parkway	Ada to Alton Parkway	72.3	72.1	72.2	-0.1	1.5	No
64	Barranca Parkway	Lake Road to Creek Road	71.4	71.8	71.8	0.4	1.5	No
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.4	74.7	74.8	0.4	1.5	No
66	Barranca Parkway	Discovery/Herchel to Banting	71.1	71.6	71.7	0.6	1.5	No
67	Barranca Parkway	Lyon to East Yale Loop	71.1	71.6	71.6	0.5	1.5	No
68	Barranca Parkway	Creek Road to Lyon	71.1	71.5	71.5	0.4	1.5	No

69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.4	72.8	72.8	0.4	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	70.6	71.1	71.1	0.5	1.5	No
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.1	72.5	72.5	0.4	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.4	70.8	70.8	0.4	1.5	No
73	Barranca Parkway	Jamboree Road to Construction Circle	70.7	71.2	71.2	0.5	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	70.6	71.0	71.1	0.5	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	69.6	70.5	70.6	1.0	1.5	No
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	69.7	70.4	70.5	0.8	1.5	No
77	Barranca Parkway	Laguna Canyon Road to FedEx	69.4	70.4	70.4	1.0	1.5	No
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.4	73.7	73.6	0.2	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	70.1	70.6	70.6	0.5	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	70.1	70.6	70.6	0.5	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.1	70.6	70.6	0.5	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.7	70.2	70.3	0.6	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	57.2	57.1	57.1	-0.1	5.0	No
84	Beacon	Ridge Valley to Benchmark	59.0	59.7	59.7	0.7	5.0	No
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.7	56.5	56.5	-0.2	5.0	No
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.7	69.6	69.7	0.0	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.2	70.3	70.3	0.1	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.5	68.6	68.6	0.1	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	68.2	68.2	0.0	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.9	68.0	68.1	0.2	1.5	No
91	Bosque	Cadence to Great Park Boulevard	64.8	65.2	65.2	0.4	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.0	63.6	63.6	0.6	3.0	No
93	Bosque	Benchmark to Cadence	63.0	63.2	63.2	0.2	3.0	No
94	Bosque	Great Park Boulevard to Beacon	56.9	56.8	56.8	-0.1	5.0	No
95	Bosque	Beacon to S 5th Street	55.9	56.2	56.2	0.3	5.0	No
96	Bryan Avenue	Jamboree Road to Market Place	68.9	69.0	69.1	0.2	1.5	No
97	Bryan Avenue	Market Place to El Camino Real	68.9	68.9	68.8	-0.1	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.9	68.8	68.9	0.0	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.9	68.8	68.9	0.0	1.5	No
100	Bryan Avenue	Eastwood to Jeffrey Road	66.3	67.1	67.2	0.9	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.8	66.8	0.5	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.4	66.7	66.7	0.3	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	66.0	66.7	66.8	0.8	1.5	No
104	Cadence	Pusan to Chinon	64.1	65.6	65.6	1.5	3.0	No
105	Cadence	Bosque to Pusan	64.2	65.3	65.3	1.1	3.0	No

106	Cadence	Ridge Valley (O Street) to Bosque	64.0	64.0	64.0	0.0	3.0	No
107	Cadence	Chinon to Merit	59.1	62.3	62.4	3.3	5.0	No
108	Cadence	Merit to Astor	58.6	59.4	59.4	0.8	5.0	No
109	California Avenue	University Drive to Academy Way	66.2	66.2	67.3	1.1	1.5	No
110	California Avenue	Campus Drive to Harvard Avenue	64.1	64.2	64.2	0.1	3.0	No
111	California Avenue	Theory to Bison Avenue	64.0	63.9	64.0	0.0	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	73.0	73.2	73.3	0.3	1.5	No
113	Campus Drive	University Drive to Bridge Road	71.7	71.8	71.8	0.1	1.5	No
114	Campus Drive	Jamboree Road to Carlson Avenue	71.3	71.5	71.6	0.3	1.5	No
115	Campus Drive	Stanford Court to Berkeley Avenue	71.0	71.1	71.1	0.1	1.5	No
116	Campus Drive	California Avenue to Culver Drive	70.9	70.9	70.9	0.0	1.5	No
117	Campus Drive	Berkeley Avenue to Cornell	69.9	70.0	69.9	0.0	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	68.7	69.1	69.2	0.5	1.5	No
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.6	68.7	68.7	0.1	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.1	68.4	68.5	0.4	1.5	No
121	Campus Drive	MacArthur Boulevard to Martin	68.1	68.2	68.3	0.2	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	67.2	67.5	67.6	0.4	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	67.8	67.9	67.9	0.1	1.5	No
124	Chinon	Irvine Boulevard to Cadence	58.3	58.8	58.8	0.5	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	56.0	56.3	56.3	0.3	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.7	74.0	73.9	0.2	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.9	73.9	73.8	-0.1	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	73.9	73.9	0.0	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.9	73.8	73.8	-0.1	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	73.6	73.6	0.0	1.5	No
131	Culver Drive	San Leandro to Main Street	73.3	73.3	73.3	0.0	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	73.3	73.4	73.4	0.1	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.4	74.2	74.2	-0.2	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	73.2	73.2	0.0	1.5	No
135	Culver Drive	Main Street to Alton Parkway	73.1	73.1	73.1	0.0	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	73.0	73.0	0.0	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.9	72.9	72.8	-0.1	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.8	72.8	72.9	0.1	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.1	72.0	72.0	-0.1	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.6	72.5	72.5	-0.1	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	72.5	72.5	0.0	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	72.4	72.4	0.0	1.5	No

Table 16

143	Culver Drive	Palo Verde to Campus Drive	71.6	71.6	71.6	0.0	1.5	No
144	Culver Drive	University Drive to Sandburg Way	72.2	72.2	72.2	0.0	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.3	73.2	73.2	-0.1	1.5	No
146	Culver Drive	Campus Drive to High School	72.1	72.1	72.1	0.0	1.5	No
147	Culver Drive	High School to Harvard Avenue	72.0	72.0	72.0	0.0	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.8	71.8	71.8	0.0	1.5	No
149	Culver Drive	Portola Parkway to Settlers	71.1	71.2	71.2	0.1	1.5	No
150	Culver Drive	Florence to Irvine Boulevard	71.7	71.7	71.7	0.0	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	70.5	70.5	0.0	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.5	70.4	70.4	-0.1	1.5	No
153	Culver Drive	Settlers to Furrow	68.3	68.5	68.6	0.3	1.5	No
154	Culver Drive	Meadowood to Portola Parkway	69.0	69.0	69.0	0.0	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	63.8	65.5	65.5	1.7	3.0	No
156	Discovery Drive	Waterworks Way to Irvine Center Drive	60.7	63.6	63.6	2.9	3.0	No
157	East Yale Loop	Alton Parkway to Witherspoon	65.3	65.6	65.6	0.3	1.5	No
158	East Yale Loop	Osborn Street to Barranca Parkway	65.0	65.4	65.4	0.4	1.5	No
159	East Yale Loop	Yale Avenue to Springbrook South	64.3	65.0	65.0	0.7	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	63.4	63.6	63.6	0.2	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.5	62.8	62.9	0.4	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.5	62.4	62.5	0.0	3.0	No
163	Eastwood	Bryan Avenue to Monticello	60.5	60.8	60.9	0.4	3.0	No
164	Eastwood	Columbus to Bryan Avenue	58.8	58.8	58.9	0.1	5.0	No
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.0	67.1	67.2	0.2	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	62.4	62.4	0.0	3.0	No
167	Fairbanks	Alton Parkway to Astor	69.7	69.8	69.9	0.2	1.5	No
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.8	66.9	66.9	0.1	1.5	No
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.0	64.0	64.0	0.0	3.0	No
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	62.8	63.5	63.5	0.7	3.0	No
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	61.6	62.3	62.2	0.6	3.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	58.4	59.2	59.2	0.8	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.1	74.6	74.6	0.5	1.5	No
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	69.7	70.3	70.4	0.7	1.5	No
175	Great Park Boulevard (EB)	Bosque to Skyhawk	68.0	69.0	69.1	1.1	1.5	No
176	Great Park Boulevard (WB)	Bosque to Skyhawk	67.6	68.4	68.4	0.8	1.5	No
177	Harvard Avenue	University Drive to Michelson Drive	71.8	72.0	72.1	0.3	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	70.2	70.4	70.5	0.3	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	70.0	70.2	70.3	0.3	1.5	No

180	Harvard Avenue	Coronado to Main Street	70.0	70.1	70.2	0.2	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.9	70.1	70.2	0.3	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.8	70.0	70.1	0.3	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.8	68.8	68.6	-0.2	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.6	68.8	68.7	0.1	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.6	68.6	68.6	0.0	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.4	67.5	67.5	0.1	1.5	No
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.4	67.4	67.4	0.0	1.5	No
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.9	67.9	67.9	0.0	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.6	67.9	67.8	0.2	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.7	67.8	67.8	0.1	1.5	No
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.7	68.8	68.9	0.2	1.5	No
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.0	67.4	67.3	0.3	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.9	67.3	67.3	0.4	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	67.0	67.2	67.2	0.2	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.8	66.7	66.8	0.0	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.4	58.2	58.2	-0.2	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.5	57.5	57.5	0.0	5.0	No
198	Hubble	Irvine Center Drive to Bunsen	55.7	55.9	56.1	0.4	5.0	No
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.3	72.2	72.3	0.0	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.2	72.2	72.2	0.0	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.1	73.0	73.0	-0.1	1.5	No
202	Irvine Boulevard	Merit to Alton	71.6	71.6	71.6	0.0	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.6	71.6	71.7	0.1	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.2	71.1	71.2	0.0	1.5	No
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	71.0	71.0	0.0	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.6	71.2	71.3	0.7	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.6	71.2	71.3	0.7	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.6	71.1	71.1	0.5	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.5	71.1	71.2	0.7	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.7	71.1	71.2	0.5	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.5	71.0	71.1	0.6	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.4	71.0	71.1	0.7	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.8	70.9	71.1	0.3	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.9	70.5	70.6	-0.3	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/ The Groves to Jeffrey Road	70.5	70.7	70.8	0.3	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	70.5	70.5	0.0	1.5	No

217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.2	70.6	70.7	0.5	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.1	70.5	70.6	0.5	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.1	70.4	70.5	0.4	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	70.2	70.2	0.0	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.6	70.0	70.0	0.4	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.6	69.6	69.7	0.1	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	68.6	68.6	0.0	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.5	72.7	72.8	0.3	1.5	No
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	71.4	72.0	72.0	0.6	1.5	No
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.1	72.2	72.3	0.2	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.3	71.9	71.9	0.6	1.5	No
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.0	71.7	71.7	0.7	1.5	No
229	Irvine Center Drive	Culver Drive to Deerwood	71.0	71.6	71.6	0.6	1.5	No
230	Irvine Center Drive	Deerwood to Yale Avenue	71.0	71.6	71.6	0.6	1.5	No
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	70.9	71.6	71.7	0.8	1.5	No
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.1	71.5	71.5	0.4	1.5	No
233	Irvine Center Drive	Alton Parkway to Spectrum	70.4	71.3	71.4	1.0	1.5	No
234	Irvine Center Drive	Spectrum to Pacifica	70.3	71.3	71.3	1.0	1.5	No
235	Irvine Center Drive	Hearthstone to Culver Drive	70.6	71.0	71.0	0.4	1.5	No
236	Irvine Center Drive	Charter to Barranca Parkway	70.2	70.9	71.0	0.8	1.5	No
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.3	70.6	70.6	0.3	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.3	70.7	70.7	0.4	1.5	No
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.0	70.7	70.7	0.7	1.5	No
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.0	70.3	70.3	0.3	1.5	No
241	Irvine Center Drive	Research to Hubble	69.8	69.8	70.0	0.2	1.5	No
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	69.4	70.1	70.2	0.8	1.5	No
243	Irvine Center Drive	Bake Parkway to Muller	69.9	69.7	69.8	-0.1	1.5	No
244	Irvine Center Drive	Discovery to Charter	69.3	70.2	70.2	0.9	1.5	No
245	Irvine Center Drive	Hubble to Bake Parkway	69.7	69.5	69.6	-0.1	1.5	No
246	Irvine Center Drive	Muller to Tesla	69.5	69.3	69.4	-0.1	1.5	No
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.0	69.4	69.4	0.4	1.5	No
248	Irvine Center Drive	Tesla to Scientific Way	69.2	68.9	69.1	-0.1	1.5	No
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.9	68.7	68.9	0.0	1.5	No
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.3	68.8	68.9	0.6	1.5	No
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.2	68.8	68.9	0.7	1.5	No
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.3	68.8	68.9	0.6	1.5	No
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	70.8	71.0	71.1	0.3	1.5	No

254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	74.5	74.5	0.0	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.4	75.6	75.7	0.3	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.8	73.9	73.9	0.1	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.9	77.0	77.0	0.1	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.6	73.6	73.6	0.0	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	76.2	76.4	76.4	0.2	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.2	74.4	74.4	0.2	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.8	76.0	76.1	0.3	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.8	76.0	76.0	0.2	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.6	73.0	73.1	0.5	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.5	73.9	74.0	0.5	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.4	75.6	75.7	0.3	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	73.2	73.5	73.6	0.4	1.5	No
267	Jamboree Road	Beckman to Barranca Parkway	75.2	75.3	75.3	0.1	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	75.1	75.1	0.0	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.7	73.2	73.2	0.5	1.5	No
270	Jamboree Road	El Camino Real to West Drive	75.1	75.0	74.9	-0.2	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	75.1	74.9	74.9	-0.2	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.8	74.6	74.6	-0.2	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	72.5	72.8	72.9	0.4	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	72.5	72.8	72.8	0.3	1.5	No
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.8	70.7	70.7	-0.1	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.1	79.2	79.2	0.1	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.2	78.3	78.4	0.2	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.9	78.0	78.0	0.1	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.3	71.4	71.4	0.1	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.2	72.3	72.3	0.1	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.8	70.9	71.0	0.2	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.5	70.9	70.9	0.4	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.6	70.7	70.8	0.2	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.5	70.9	71.0	0.5	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.4	70.7	70.7	0.3	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.5	70.8	70.8	0.3	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.3	70.5	70.5	0.2	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.7	69.6	69.7	0.0	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.7	69.6	69.7	0.0	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.4	70.4	70.4	0.0	1.5	No

291	Jeffrey Road	Grove to Trabuco Road	70.3	70.2	70.2	-0.1	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.5	68.5	68.6	0.1	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	66.1	65.8	65.5	-0.6	1.5	No
294	Jeffrey Road	Irvine Boulevard to Encore	65.6	65.5	65.4	-0.2	1.5	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.8	64.6	64.6	-0.2	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.7	64.3	64.3	-0.4	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.3	73.3	73.4	0.1	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	70.0	69.9	70.0	0.0	1.5	No
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	68.1	69.5	69.5	1.4	1.5	No
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	68.0	67.9	68.0	0.0	1.5	No
301	Laguna Canyon Road	Irvine Center Drive to Discovery	67.3	69.0	69.0	1.7	1.5	**Yes**
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	68.0	67.9	68.0	0.0	1.5	No
303	Laguna Canyon Road	Pasteur to Alton Parkway	66.9	67.0	67.1	0.2	1.5	No
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	66.2	67.5	67.5	1.3	1.5	No
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.0	66.3	66.4	0.4	1.5	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	65.6	66.2	66.3	0.7	1.5	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.2	69.4	69.6	0.4	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.2	69.3	69.5	0.3	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	66.2	66.4	66.6	0.4	1.5	No
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	59.2	59.2	0.0	5.0	No
311	Lynx	Irvine Boulevard to Astor	53.5	53.2	53.2	-0.3	5.0	No
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.4	76.7	76.8	0.4	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.5	76.7	76.7	0.2	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.4	76.6	76.6	0.2	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	69.9	69.9	0.0	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.8	69.8	69.8	0.0	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	70.5	70.5	0.0	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.8	72.2	72.3	0.5	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.9	72.1	72.3	0.4	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.6	69.5	69.5	-0.1	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.5	68.3	68.4	-0.1	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.8	67.1	67.2	0.4	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	69.1	69.3	69.5	0.4	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	70.2	70.9	70.9	0.7	1.5	No
325	Main Street	MacArthur Boulevard to Mercantile	69.9	70.3	70.3	0.4	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	68.2	68.4	68.5	0.3	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.8	68.5	68.5	0.7	1.5	No

328	Main Street	McDurmott to Red Hill Avenue	68.0	68.1	68.1	0.1	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.9	68.0	68.0	0.1	1.5	No
330	Main Street	Jamboree Road to Union	67.7	67.8	67.9	0.2	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.2	67.2	67.2	0.0	1.5	No
332	Main Street	Siglo to Jamboree Road	67.4	67.7	67.7	0.3	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.6	67.5	67.6	0.0	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.4	66.3	66.4	0.0	1.5	No
335	Main Street	Harvard Avenue to San Mateo	66.3	66.3	66.3	0.0	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.1	72.3	72.3	0.2	1.5	No
337	Marine Way	Alton Parkway to Bake Parkway	69.0	69.4	69.5	0.5	1.5	No
338	Marine Way	Lynx to Barranca Parkway	69.4	69.3	69.3	-0.1	1.5	No
339	Marine Way	County Access to Treble	65.3	68.5	68.5	3.2	1.5	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	67.6	68.3	68.3	0.7	1.5	No
341	Marine Way	Skyhawk to County Access	64.9	67.4	67.4	2.5	3.0	No
342	Marine Way	Barranca Parkway to Alton Parkway	66.3	66.8	66.8	0.5	1.5	No
343	Marine Way	Treble to Lynx	67.1	66.5	66.6	-0.5	1.5	No
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	63.6	64.5	64.5	0.9	3.0	No
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	63.6	64.3	64.4	0.8	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	62.4	62.4	62.4	0.0	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.2	59.6	59.5	0.3	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.8	59.8	59.6	-0.2	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.9	55.6	55.7	0.8	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	54.1	54.7	54.8	0.7	5.0	No
351	Merit	Irvine Boulevard to Cadence	57.3	58.0	58.0	0.7	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	67.8	68.3	68.3	0.5	1.5	No
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.7	67.2	67.2	0.5	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	67.8	68.2	68.1	0.3	1.5	No
355	Michelson Drive	Parkside to Culver Drive	66.8	67.8	67.8	1.0	1.5	No
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.5	66.9	66.9	0.4	1.5	No
357	Michelson Drive	Carlson to Prince	67.0	67.3	67.3	0.3	1.5	No
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.0	67.5	67.5	0.5	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.8	66.8	66.8	0.0	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	66.3	66.8	66.9	0.6	1.5	No
361	Michelson Drive	Jamboree Road to Carlson	69.5	69.6	69.6	0.1	1.5	No
362	Michelson Drive	Teller to Jamboree Road	69.5	69.6	69.6	0.1	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.8	67.1	67.1	0.3	1.5	No
364	Michelson Drive	Culver Drive to Angell	66.1	66.3	66.3	0.2	1.5	No

365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	71.7	71.7	0.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	60.6	61.1	61.0	0.4	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	67.2	67.2	67.3	0.1	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.3	66.3	66.2	-0.1	1.5	No
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.2	66.3	66.3	0.1	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.7	66.6	66.7	0.0	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.2	65.1	65.1	-0.1	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	62.1	61.8	61.7	-0.4	3.0	No
373	Northwood	Yale Avenue to Savannah	62.4	62.5	62.5	0.1	3.0	No
374	Northwood	Goldrush to Yale Avenue	61.3	61.5	61.6	0.3	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	67.4	69.7	69.7	2.3	1.5	**Yes**
376	Pacifica	Gateway to Barranca Parkway	64.6	65.3	65.3	0.7	3.0	No
377	Pacifica	Alton Parkway to Gateway	63.2	64.1	64.2	1.0	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	63.2	62.7	62.7	-0.5	3.0	No
379	Pacifica	Meridian to Alton Parkway	60.0	60.9	60.9	0.9	1.5	No
380	Park Place	Christamon South to Yale Avenue	57.0	57.0	57.0	0.0	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.3	71.7	71.8	0.5	1.5	No
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.3	71.7	71.8	0.5	1.5	No
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.3	71.4	71.5	0.2	1.5	No
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	70.9	71.1	71.1	0.2	1.5	No
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.0	70.1	70.1	0.1	1.5	No
386	Portola Parkway	Gatepark to Culver Drive	70.3	70.7	70.9	0.6	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.2	70.7	70.8	0.6	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.1	70.6	70.7	0.6	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	70.1	70.5	70.6	0.5	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.0	70.5	70.6	0.6	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	69.8	70.2	70.4	0.6	1.5	No
392	Portola Parkway	Culver Drive to Yale Avenue	69.4	69.7	69.8	0.4	1.5	No
393	Portola Parkway	Silverado to Portola Springs	68.5	68.6	68.7	0.2	1.5	No
394	Pusan	Irvine Boulevard to Cadence	56.1	56.2	56.1	0.0	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.6	67.5	67.5	-0.1	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.6	65.4	65.4	-0.2	1.5	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.9	54.9	55.0	0.1	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.3	71.6	71.7	0.4	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.9	70.2	70.3	0.4	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.9	70.1	70.1	0.2	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.7	69.9	70.1	0.4	1.5	No

402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.7	69.8	69.9	0.2	1.5	No
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.0	71.4	71.5	0.5	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	70.4	70.8	70.9	0.5	1.5	No
405	Research Drive	Hubble to Bake Parkway	69.5	69.6	69.7	0.2	1.5	No
406	Research Drive	Scientific to Lake Forest Drive	67.6	67.4	67.8	0.2	1.5	No
407	Research Drive	Bake Parkway to Muller	66.5	66.7	66.8	0.3	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	65.5	65.7	65.8	0.3	1.5	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.4	67.3	67.3	-0.1	1.5	No
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.5	66.4	66.4	-0.1	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	66.0	66.0	0.0	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	58.1	58.1	0.0	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	68.6	68.8	68.8	0.2	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.2	68.5	68.5	0.3	1.5	No
415	Rockfield Avenue	Whatney to McLaren	67.5	67.7	67.8	0.3	1.5	No
416	Rockfield Avenue	Bake Parkway to Whatney	63.8	64.3	64.4	0.6	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.6	63.1	63.2	0.6	3.0	No
418	Roosevelt	Jeffrey Road to Vision	66.1	66.6	66.7	0.6	1.5	No
419	Roosevelt	Yale Avenue to Van Buren	68.1	68.3	68.3	0.2	1.5	No
420	Roosevelt	Vision to Bay Tree	65.9	66.3	66.5	0.6	1.5	No
421	Roosevelt	Nimitz to Jeffrey Road	65.8	65.9	65.9	0.1	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.6	65.6	65.7	0.1	1.5	No
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	64.0	64.0	0.0	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	71.9	72.2	72.2	0.3	1.5	No
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	71.6	72.0	72.0	0.4	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.4	74.7	74.7	0.3	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.6	72.7	72.8	0.2	1.5	No
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.6	74.6	74.8	0.2	1.5	No
429	Sand Canyon Avenue	Trabuco Road to Towngate	71.3	71.0	71.2	-0.1	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	70.6	70.9	71.0	0.4	1.5	No
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	73.8	73.9	74.0	0.2	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.4	70.8	70.9	0.5	1.5	No
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.4	73.5	73.6	0.2	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.4	73.6	73.6	0.2	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.5	73.5	73.6	0.1	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.6	70.3	70.6	0.0	1.5	No
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.0	70.2	70.3	0.3	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	69.3	69.2	70.3	1.0	1.5	No

439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	72.8	72.8	0.0	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.5	70.8	70.9	0.4	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.6	71.8	71.8	0.2	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.9	55.0	55.0	0.1	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.8	69.3	69.4	0.6	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.3	67.7	67.8	0.5	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	60.2	59.6	59.5	-0.7	3.0	No
446	Southwood	Yale Avenue to Colt	60.5	60.6	60.6	0.1	3.0	No
447	Southwood	Challenger to Yale Avenue	60.3	60.4	60.4	0.1	3.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.9	62.0	61.9	0.0	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.4	62.5	62.5	0.1	3.0	No
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.0	57.7	57.8	0.8	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	69.9	70.8	70.8	0.9	1.5	No
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	67.1	69.6	69.6	2.5	1.5	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	66.1	69.4	69.4	3.3	1.5	**Yes**
454	Technology Drive	Ada to Alton Parkway	59.9	63.7	63.7	3.8	5.0	No
455	Toledo Way	Bake Parkway to City Limits	65.8	65.6	65.6	-0.2	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.9	64.7	64.7	-0.2	3.0	No
457	Toledo Way	Alton Parkway to Parker	64.5	64.5	64.5	0.0	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.0	67.2	67.3	0.3	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.9	67.1	67.1	0.2	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.6	66.8	66.9	0.3	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.5	66.8	66.9	0.4	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.5	66.7	66.8	0.3	1.5	No
463	Trabuco Road	Yale Avenue to Remington	66.0	66.4	66.5	0.5	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	66.0	66.1	66.2	0.2	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.8	68.7	68.7	-0.1	1.5	No
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.5	67.9	67.9	0.4	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.4	67.8	67.8	0.4	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.8	67.1	67.1	0.3	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	64.0	64.0	0.0	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	64.0	64.1	64.2	0.2	3.0	No
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.4	65.5	65.4	0.0	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.6	73.0	73.1	0.5	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.3	72.6	72.6	0.3	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.5	72.9	72.9	0.4	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.2	72.4	72.4	0.2	1.5	No

476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.4	72.7	72.8	0.4	1.5	No
477	University Drive	Mesa to Campus Drive	74.2	74.5	74.6	0.4	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.2	74.4	74.7	0.5	1.5	No
479	University Drive	California Avenue to Mesa	74.1	74.4	74.5	0.4	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	70.3	70.7	70.8	0.5	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.3	71.6	71.8	0.5	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.0	70.2	70.4	0.4	1.5	No
483	University Drive	San Joaquin to Culver Drive	69.4	69.8	69.9	0.5	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	69.4	69.8	69.9	0.5	1.5	No
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.0	68.1	68.1	0.1	1.5	No
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	67.6	69.6	69.5	1.9	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	65.7	67.1	67.2	1.5	1.5	**Yes**
488	Valley Oak Drive	Alton Parkway to Hawkcreek	65.0	64.9	64.9	-0.1	1.5	No
489	Von Karman Avenue	Marriott to Morse Avenue	70.6	71.0	71.0	0.4	1.5	No
490	Von Karman Avenue	Michelson Drive to Quartz	70.4	70.9	70.9	0.5	1.5	No
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.1	70.8	70.8	0.7	1.5	No
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	69.7	70.4	70.4	0.7	1.5	No
493	Von Karman Avenue	Main Street to Anchor	69.9	70.7	70.7	0.8	1.5	No
494	Von Karman Avenue	Anchor to McGaw Avenue	69.9	70.5	70.6	0.7	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.9	70.3	70.3	0.4	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	69.2	69.6	69.7	0.5	1.5	No
497	Von Karman Avenue	Campus Drive to Martin	69.2	69.5	69.6	0.4	1.5	No
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.2	69.5	69.6	0.4	1.5	No
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	70.5	70.9	71.0	0.5	1.5	No
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.9	69.1	69.2	0.3	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.5	68.8	68.9	0.4	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.4	68.8	68.8	0.4	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.1	68.5	68.6	0.5	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.1	68.5	68.5	0.4	1.5	No
505	Walnut Avenue	Culver Drive to Franciscan Street	68.1	68.4	68.4	0.3	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.6	68.0	68.1	0.5	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.5	67.9	67.9	0.4	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	67.0	67.3	67.3	0.3	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	67.0	67.2	67.2	0.2	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.1	70.2	70.1	0.0	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	68.4	68.6	68.6	0.2	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.8	67.1	67.1	0.3	1.5	No

513	Warner Avenue	Santa Ynez to Culver Drive	65.6	66.2	66.2	0.6	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	65.1	65.8	65.9	0.8	1.5	No
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	64.0	64.0	0.0	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.8	63.9	63.8	0.0	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	63.6	64.0	64.0	0.4	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.9	62.8	62.9	0.0	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	62.1	63.2	63.3	1.2	3.0	No
520	West Yale Loop	Warner Avenue to Stonecreek South	62.4	62.7	62.7	0.3	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	62.4	62.4	0.0	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	62.0	62.6	62.6	0.6	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	62.2	62.4	62.5	0.3	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.6	63.5	63.5	-0.1	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.6	61.6	61.6	0.0	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	68.6	68.6	0.0	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.4	67.3	67.3	-0.1	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.9	71.1	71.2	0.3	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	67.1	67.1	67.1	0.0	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	67.0	66.9	66.8	-0.2	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.8	66.5	66.6	0.8	1.5	No
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.7	65.7	65.8	0.1	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.7	65.7	65.8	0.1	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.6	65.6	65.7	0.1	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.6	65.4	65.4	-0.2	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	65.3	65.1	65.2	-0.1	1.5	No
537	Yale Avenue	Bryan Avenue to Monticello	65.2	65.0	65.0	-0.2	1.5	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.3	64.2	64.2	-0.1	3.0	No
539	Yale Avenue	University Drive to Royce	63.0	63.6	63.5	0.5	3.0	No
540	Yale Court	Arborwood to Portola Parkway	60.3	60.4	60.4	0.1	3.0	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria ?

Table 17: Current General Plan and Cumulative Preferred Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]				Incremental Noise Level Increase Threshold[3]	
			Current GeneraL Plan	Preferred	Cumulative Preferred	Cumulative Increase	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	70.8	70.8	70.8	5.0	**Yes**
2	Ada	Alton Parkway to Barranca PArkway	67.1	69.2	69.2	2.1	1.5	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	72.6	73.9	73.9	1.3	1.5	No
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	73.3	74.5	74.5	1.2	1.5	No
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.5	71.8	71.8	0.3	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	70.5	71.7	71.7	1.2	1.5	No
7	Alton Parkway	Jeffrey Road to Royal Oak	70.4	70.7	70.8	0.4	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.4	70.6	70.6	0.2	1.5	No
9	Alton Parkway	Culver Drive to West Yale Loop	70.5	70.6	70.6	0.1	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.5	70.6	70.6	0.1	1.5	No
11	Alton Parkway	Technology Drive West to Ada	71.4	72.4	72.4	1.0	1.5	No
12	Alton Parkway	Creek Road to East Yale Loop	70.3	70.5	70.6	0.3	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	69.9	70.4	70.5	0.6	1.5	No
14	Alton Parkway	Lake Road to Creek Road	70.3	70.3	70.3	0.0	1.5	No
15	Alton Parkway	Telemetry to Banting	69.8	70.3	70.4	0.6	1.5	No
16	Alton Parkway	Irvine Boulevard to Commercentre	71.0	70.8	70.9	-0.1	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.7	70.3	70.3	0.6	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	69.8	71.0	71.0	1.2	1.5	No
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.6	73.7	73.7	0.1	1.5	No
20	Alton Parkway	Laguna Canyon Road to Jenner	69.7	70.2	70.2	0.5	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	70.4	70.8	70.8	0.4	1.5	No
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.7	70.0	70.0	0.3	1.5	No
23	Alton Parkway	Banting to Pacifica	69.3	69.9	69.9	0.6	1.5	No
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.3	70.3	70.3	0.0	1.5	No
25	Alton Parkway	Ada to Technology Drive East	70.2	70.3	70.3	0.1	1.5	No
26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.2	69.6	69.7	0.5	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.9	70.0	70.0	0.1	1.5	No
28	Alton Parkway	Hughes to Morgan	69.7	69.8	69.8	0.1	1.5	No
29	Alton Parkway	Morgan to Toledo Way	69.0	69.0	69.0	0.0	1.5	No
30	Alton Parkway	San Marino to Culver Drive	69.0	69.1	69.1	0.1	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.6	68.9	69.1	0.5	1.5	No

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32	Alton Parkway	Hospital to Laguna Canyon Road	71.5	71.9	72.0	0.5	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.4	71.8	71.8	0.4	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.5	68.7	68.9	0.4	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	69.0	68.7	68.7	-0.3	1.5	No
36	Alton Parkway	Fairbanks to Foster	68.7	68.4	68.5	-0.2	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.4	68.4	68.4	0.0	1.5	No
38	Alton Parkway	Pacifica to Meridian	70.7	71.5	71.6	0.9	1.5	No
39	Alton Parkway	Bertea to Fairbanks	68.3	68.3	68.3	0.0	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	67.5	68.2	68.2	0.7	1.5	No
41	Alton Parkway	Paseo Westpark to San Marino	68.0	68.1	68.2	0.2	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.1	67.5	67.7	0.6	1.5	No
43	Astor	Lynx to Fairbanks	66.9	67.0	67.0	0.1	1.5	No
44	Astor	Cadence to Lynx	66.0	65.8	65.8	-0.2	1.5	No
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.4	76.6	76.6	0.2	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.9	72.9	72.9	0.0	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.1	75.0	75.0	-0.1	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	72.0	72.0	72.0	0.0	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.6	71.6	71.7	0.1	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	71.6	71.6	0.0	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.3	69.5	69.6	0.3	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.6	64.8	65.0	0.4	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.0	63.4	63.7	0.7	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	59.3	60.2	60.1	0.8	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	71.7	73.1	73.1	1.4	1.5	No
56	Barranca Parkway	Banting to Pacifica	71.8	72.7	72.7	0.9	1.5	No
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	70.9	72.6	72.7	1.8	1.5	**Yes**
58	Barranca Parkway	Technology Drive West to Ada	71.5	72.6	72.6	1.1	1.5	No
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	70.8	72.3	72.4	1.6	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	72.0	72.2	72.2	0.2	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	72.1	72.1	0.4	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.8	72.0	72.0	0.2	1.5	No
63	Barranca Parkway	Ada to Alton Parkway	72.3	72.0	72.0	-0.3	1.5	No
64	Barranca Parkway	Lake Road to Creek Road	71.4	71.7	71.7	0.3	1.5	No
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.4	74.7	74.7	0.3	1.5	No
66	Barranca Parkway	Discovery/Herchel to Banting	71.1	71.6	71.6	0.5	1.5	No
67	Barranca Parkway	Lyon to East Yale Loop	71.1	71.5	71.5	0.4	1.5	No
68	Barranca Parkway	Creek Road to Lyon	71.1	71.4	71.4	0.3	1.5	No

69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.4	72.7	72.7	0.3	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	70.6	70.8	70.8	0.2	1.5	No
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.1	72.3	72.4	0.3	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.4	70.6	70.7	0.3	1.5	No
73	Barranca Parkway	Jamboree Road to Construction Circle	70.7	71.0	71.1	0.4	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	70.6	70.9	71.0	0.4	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	69.6	70.2	70.3	0.7	1.5	No
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	69.7	70.2	70.3	0.6	1.5	No
77	Barranca Parkway	Laguna Canyon Road to FedEx	69.4	70.1	70.1	0.7	1.5	No
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.4	73.6	73.6	0.2	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	70.1	70.5	70.5	0.4	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	70.1	70.5	70.5	0.4	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.1	70.4	70.5	0.4	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.7	70.1	70.2	0.5	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	57.2	57.2	57.2	0.0	5.0	No
84	Beacon	Ridge Valley to Benchmark	59.0	59.6	59.7	0.7	5.0	No
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.7	56.5	56.5	-0.2	5.0	No
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.7	69.6	69.7	0.0	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.2	70.3	70.3	0.1	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.5	68.6	68.6	0.1	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	68.2	68.2	0.0	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.9	68.0	68.0	0.1	1.5	No
91	Bosque	Cadence to Great Park Boulevard	64.8	65.2	65.2	0.4	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.0	63.5	63.5	0.5	3.0	No
93	Bosque	Benchmark to Cadence	63.0	63.1	63.1	0.1	3.0	No
94	Bosque	Great Park Boulevard to Beacon	56.9	56.7	56.7	-0.2	5.0	No
95	Bosque	Beacon to S 5th Street	55.9	56.1	56.1	0.2	5.0	No
96	Bryan Avenue	Jamboree Road to Market Place	68.9	68.9	69.0	0.1	1.5	No
97	Bryan Avenue	Market Place to El Camino Real	68.9	68.9	68.9	0.0	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.9	68.9	68.9	0.0	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.9	68.8	68.9	0.0	1.5	No
100	Bryan Avenue	Eastwood to Jeffrey Road	66.3	66.9	67.0	0.7	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.6	66.7	0.4	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.4	66.6	66.6	0.2	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	66.0	66.4	66.5	0.5	1.5	No
104	Cadence	Pusan to Chinon	64.1	65.6	65.6	1.5	3.0	No
105	Cadence	Bosque to Pusan	64.2	65.3	65.3	1.1	3.0	No

106	Cadence	Ridge Valley (O Street) to Bosque	64.0	63.9	63.9	-0.1	3.0	No
107	Cadence	Chinon to Merit	59.1	62.2	62.2	3.1	5.0	No
108	Cadence	Merit to Astor	58.6	59.4	59.4	0.8	5.0	No
109	California Avenue	University Drive to Academy Way	66.2	66.2	67.2	1.0	1.5	No
110	California Avenue	Campus Drive to Harvard Avenue	64.1	64.2	64.2	0.1	3.0	No
111	California Avenue	Theory to Bison Avenue	64.0	63.9	64.0	0.0	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	73.0	73.2	73.3	0.3	1.5	No
113	Campus Drive	University Drive to Bridge Road	71.7	71.8	71.7	0.0	1.5	No
114	Campus Drive	Jamboree Road to Carlson Avenue	71.3	71.5	71.5	0.2	1.5	No
115	Campus Drive	Stanford Court to Berkeley Avenue	71.0	71.1	71.0	0.0	1.5	No
116	Campus Drive	California Avenue to Culver Drive	70.9	70.9	70.9	0.0	1.5	No
117	Campus Drive	Berkeley Avenue to Cornell	69.9	70.0	69.9	0.0	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	68.7	69.0	69.1	0.4	1.5	No
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.6	68.7	68.7	0.1	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.1	68.3	68.5	0.4	1.5	No
121	Campus Drive	MacArthur Boulevard to Martin	68.1	68.2	68.3	0.2	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	67.2	67.5	67.5	0.3	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	67.8	67.9	67.9	0.1	1.5	No
124	Chinon	Irvine Boulevard to Cadence	58.3	59.0	59.0	0.7	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	56.0	56.1	56.2	0.2	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.7	73.9	73.9	0.2	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.9	73.8	73.8	-0.1	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	73.9	73.9	0.0	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.9	73.9	73.9	0.0	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	73.6	73.6	0.0	1.5	No
131	Culver Drive	San Leandro to Main Street	73.3	73.3	73.3	0.0	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	73.3	73.3	73.3	0.0	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.4	74.3	74.2	-0.2	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	73.2	73.2	0.0	1.5	No
135	Culver Drive	Main Street to Alton Parkway	73.1	73.1	73.1	0.0	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	73.0	73.0	0.0	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.9	72.9	72.9	0.0	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.8	72.8	72.9	0.1	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.1	72.0	72.0	-0.1	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.6	72.5	72.5	-0.1	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	72.5	72.5	0.0	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	72.4	72.4	0.0	1.5	No

143	Culver Drive	Palo Verde to Campus Drive	71.6	71.6	71.6	0.0	1.5	No
144	Culver Drive	University Drive to Sandburg Way	72.2	72.2	72.2	0.0	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.3	73.2	73.2	-0.1	1.5	No
146	Culver Drive	Campus Drive to High School	72.1	72.1	72.1	0.0	1.5	No
147	Culver Drive	High School to Harvard Avenue	72.0	72.0	72.0	0.0	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.8	71.8	71.8	0.0	1.5	No
149	Culver Drive	Portola Parkway to Settlers	71.1	71.1	71.2	0.1	1.5	No
150	Culver Drive	Florence to Irvine Boulevard	71.7	71.7	71.7	0.0	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	70.5	70.5	0.0	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.5	70.4	70.4	-0.1	1.5	No
153	Culver Drive	Settlers to Furrow	68.3	68.4	68.5	0.2	1.5	No
154	Culver Drive	Meadowood to Portola Parkway	69.0	69.0	69.0	0.0	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	63.8	64.0	64.0	0.2	3.0	No
156	Discovery Drive	Waterworks Way to Irvine Center Drive	60.7	61.2	61.2	0.5	3.0	No
157	East Yale Loop	Alton Parkway to Witherspoon	65.3	65.5	65.5	0.2	1.5	No
158	East Yale Loop	Osborn Street to Barranca Parkway	65.0	65.3	65.3	0.3	1.5	No
159	East Yale Loop	Yale Avenue to Springbrook South	64.3	64.8	64.9	0.6	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	63.4	63.5	63.6	0.2	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.5	62.7	62.7	0.2	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.5	62.4	62.4	-0.1	3.0	No
163	Eastwood	Bryan Avenue to Monticello	60.5	60.8	60.8	0.3	3.0	No
164	Eastwood	Columbus to Bryan Avenue	58.8	58.7	58.8	0.0	5.0	No
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.0	67.1	67.1	0.1	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	62.4	62.4	0.0	3.0	No
167	Fairbanks	Alton Parkway to Astor	69.7	69.7	69.8	0.1	1.5	No
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.8	66.9	66.9	0.1	1.5	No
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.0	64.1	64.0	0.0	3.0	No
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	62.8	63.3	63.3	0.5	3.0	No
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	61.6	62.1	62.1	0.5	3.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	58.4	59.1	59.2	0.8	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.1	74.4	74.5	0.4	1.5	No
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	69.7	70.2	70.2	0.5	1.5	No
175	Great Park Boulevard (EB)	Bosque to Skyhawk	68.0	68.8	68.9	0.9	1.5	No
176	Great Park Boulevard (WB)	Bosque to Skyhawk	67.6	68.3	68.3	0.7	1.5	No
177	Harvard Avenue	University Drive to Michelson Drive	71.8	72.0	72.0	0.2	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	70.2	70.4	70.5	0.3	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	70.0	70.1	70.2	0.2	1.5	No

180	Harvard Avenue	Coronado to Main Street	70.0	70.1	70.2	0.2	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.9	70.0	70.1	0.2	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.8	70.0	70.0	0.2	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.8	68.8	68.6	-0.2	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.6	68.8	68.7	0.1	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.6	68.6	68.6	0.0	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.4	67.4	67.4	0.0	1.5	No
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.4	67.3	67.4	0.0	1.5	No
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.9	67.8	67.9	0.0	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.6	67.8	67.8	0.2	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.7	67.8	67.8	0.1	1.5	No
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.7	68.7	68.8	0.1	1.5	No
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.0	67.2	67.2	0.2	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.9	67.2	67.2	0.3	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	67.0	67.1	67.1	0.1	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.8	66.8	66.8	0.0	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.4	58.2	58.2	-0.2	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.5	57.5	57.6	0.1	5.0	No
198	Hubble	Irvine Center Drive to Bunsen	55.7	55.9	56.1	0.4	5.0	No
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.3	72.3	72.3	0.0	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.2	72.2	72.1	-0.1	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.1	73.1	73.1	0.0	1.5	No
202	Irvine Boulevard	Merit to Alton	71.6	71.6	71.6	0.0	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.6	71.6	71.7	0.1	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.2	71.2	71.1	-0.1	1.5	No
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	71.0	71.0	0.0	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.6	71.1	71.2	0.6	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.6	71.0	71.1	0.5	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.6	70.9	71.0	0.4	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.5	71.0	71.0	0.5	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.7	70.9	71.0	0.3	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.5	70.9	70.9	0.4	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.4	70.9	70.9	0.5	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.8	70.8	71.0	0.2	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.9	70.6	70.7	-0.2	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/ The Groves to Jeffrey Road	70.5	70.6	70.6	0.1	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	70.5	70.5	0.0	1.5	No

217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.2	70.5	70.5	0.3	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.1	70.3	70.4	0.3	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.1	70.3	70.4	0.3	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	70.2	70.2	0.0	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.6	69.9	69.9	0.3	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.6	69.5	69.7	0.1	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	68.6	68.6	0.0	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.5	72.6	72.7	0.2	1.5	No
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	71.4	71.8	71.9	0.5	1.5	No
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.1	72.1	72.3	0.2	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.3	71.7	71.8	0.5	1.5	No
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.0	71.5	71.5	0.5	1.5	No
229	Irvine Center Drive	Culver Drive to Deerwood	71.0	71.4	71.5	0.5	1.5	No
230	Irvine Center Drive	Deerwood to Yale Avenue	71.0	71.4	71.4	0.4	1.5	No
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	70.9	71.4	71.5	0.6	1.5	No
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.1	71.3	71.4	0.3	1.5	No
233	Irvine Center Drive	Alton Parkway to Spectrum	70.4	71.0	71.1	0.7	1.5	No
234	Irvine Center Drive	Spectrum to Pacifica	70.3	71.0	71.0	0.7	1.5	No
235	Irvine Center Drive	Hearthstone to Culver Drive	70.6	70.9	70.9	0.3	1.5	No
236	Irvine Center Drive	Charter to Barranca Parkway	70.2	70.6	70.7	0.5	1.5	No
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.3	70.5	70.5	0.2	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.3	70.5	70.6	0.3	1.5	No
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.0	70.5	70.5	0.5	1.5	No
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.0	70.2	70.2	0.2	1.5	No
241	Irvine Center Drive	Research to Hubble	69.8	69.7	70.0	0.2	1.5	No
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	69.4	69.8	69.9	0.5	1.5	No
243	Irvine Center Drive	Bake Parkway to Muller	69.9	69.7	69.9	0.0	1.5	No
244	Irvine Center Drive	Discovery to Charter	69.3	69.8	69.9	0.6	1.5	No
245	Irvine Center Drive	Hubble to Bake Parkway	69.7	69.5	69.6	-0.1	1.5	No
246	Irvine Center Drive	Muller to Tesla	69.5	69.3	69.4	-0.1	1.5	No
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.0	69.2	69.2	0.2	1.5	No
248	Irvine Center Drive	Tesla to Scientific Way	69.2	68.9	69.1	-0.1	1.5	No
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.9	68.7	68.9	0.0	1.5	No
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.3	68.6	68.7	0.4	1.5	No
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.2	68.6	68.7	0.5	1.5	No
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.3	68.5	68.6	0.3	1.5	No
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	70.8	70.9	70.9	0.1	1.5	No

254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	74.5	74.5	0.0	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.4	75.6	75.6	0.2	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.8	73.9	73.9	0.1	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.9	77.0	77.0	0.1	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.6	73.6	73.7	0.1	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	76.2	76.3	76.4	0.2	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.2	74.3	74.3	0.1	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.8	76.0	76.0	0.2	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.8	75.9	76.0	0.2	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.6	72.9	73.0	0.4	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.5	73.8	73.9	0.4	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.4	75.5	75.6	0.2	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	73.2	73.4	73.5	0.3	1.5	No
267	Jamboree Road	Beckman to Barranca Parkway	75.2	75.2	75.3	0.1	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	75.1	75.1	0.0	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.7	73.1	73.1	0.4	1.5	No
270	Jamboree Road	El Camino Real to West Drive	75.1	75.0	74.9	-0.2	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	75.1	75.0	75.0	-0.1	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.8	74.7	74.6	-0.2	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	72.5	72.7	72.7	0.2	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	72.5	72.6	72.7	0.2	1.5	No
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.8	70.7	70.7	-0.1	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.1	79.1	79.1	0.0	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.2	78.3	78.3	0.1	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.9	78.0	78.0	0.1	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.3	71.3	71.4	0.1	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.2	72.2	72.3	0.1	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.8	70.9	70.9	0.1	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.5	70.8	70.8	0.3	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.6	70.7	70.7	0.1	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.5	70.7	70.8	0.3	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.4	70.6	70.6	0.2	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.5	70.6	70.7	0.2	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.3	70.4	70.4	0.1	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.7	69.6	69.7	0.0	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.7	69.6	69.7	0.0	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.4	70.4	70.4	0.0	1.5	No

291	Jeffrey Road	Grove to Trabuco Road	70.3	70.2	70.2	-0.1	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.5	68.5	68.5	0.0	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	66.1	65.8	65.6	-0.5	1.5	No
294	Jeffrey Road	Irvine Boulevard to Encore	65.6	65.5	65.4	-0.2	1.5	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.8	64.6	64.5	-0.3	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.7	64.3	64.3	-0.4	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.3	73.3	73.4	0.1	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	70.0	69.9	70.0	0.0	1.5	No
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	68.1	69.1	69.1	1.0	1.5	No
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	68.0	67.9	68.0	0.0	1.5	No
301	Laguna Canyon Road	Irvine Center Drive to Discovery	67.3	67.5	67.5	0.2	1.5	No
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	68.0	67.9	68.0	0.0	1.5	No
303	Laguna Canyon Road	Pasteur to Alton Parkway	66.9	66.9	67.0	0.1	1.5	No
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	66.2	66.4	66.4	0.2	1.5	No
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.0	66.1	66.1	0.1	1.5	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	65.6	65.6	65.6	0.0	1.5	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.2	69.3	69.5	0.3	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.2	69.3	69.5	0.3	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	66.2	66.3	66.6	0.4	1.5	No
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	59.2	59.2	0.0	5.0	No
311	Lynx	Irvine Boulevard to Astor	53.5	53.2	53.2	-0.3	5.0	No
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.4	76.7	76.7	0.3	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.5	76.6	76.7	0.2	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.4	76.6	76.6	0.2	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	69.9	69.9	0.0	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.8	69.9	69.8	0.0	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	70.5	70.5	0.0	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.8	72.1	72.2	0.4	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.9	72.1	72.2	0.3	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.6	69.5	69.5	-0.1	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.5	68.3	68.4	-0.1	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.8	67.0	67.1	0.3	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	69.1	69.3	69.4	0.3	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	70.2	70.7	70.8	0.6	1.5	No
325	Main Street	MacArthur Boulevard to Mercantile	69.9	70.2	70.3	0.4	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	68.2	68.4	68.4	0.2	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.8	68.3	68.4	0.6	1.5	No

328	Main Street	McDurmott to Red Hill Avenue	68.0	68.1	68.1	0.1	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.9	68.0	68.0	0.1	1.5	No
330	Main Street	Jamboree Road to Union	67.7	67.8	67.8	0.1	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.2	67.1	67.2	0.0	1.5	No
332	Main Street	Siglo to Jamboree Road	67.4	67.7	67.7	0.3	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.6	67.5	67.5	-0.1	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.4	66.4	66.3	-0.1	1.5	No
335	Main Street	Harvard Avenue to San Mateo	66.3	66.4	66.3	0.0	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.1	72.3	72.3	0.2	1.5	No
337	Marine Way	Alton Parkway to Bake Parkway	69.0	69.3	69.3	0.3	1.5	No
338	Marine Way	Lynx to Barranca Parkway	69.4	69.3	69.3	-0.1	1.5	No
339	Marine Way	County Access to Treble	65.3	68.4	68.4	3.1	1.5	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	67.6	68.2	68.2	0.6	1.5	No
341	Marine Way	Skyhawk to County Access	64.9	67.1	67.2	2.3	3.0	No
342	Marine Way	Barranca Parkway to Alton Parkway	66.3	66.8	66.8	0.5	1.5	No
343	Marine Way	Treble to Lynx	67.1	66.4	66.4	-0.7	1.5	No
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	63.6	64.3	64.3	0.7	3.0	No
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	63.6	64.1	64.2	0.6	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	62.4	62.4	62.5	0.1	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.2	59.3	59.4	0.2	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.8	59.8	59.8	0.0	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.9	55.3	55.5	0.6	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	54.1	54.6	54.7	0.6	5.0	No
351	Merit	Irvine Boulevard to Cadence	57.3	57.9	58.0	0.7	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	67.8	68.3	68.3	0.5	1.5	No
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.7	67.1	67.1	0.4	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	67.8	68.0	68.0	0.2	1.5	No
355	Michelson Drive	Parkside to Culver Drive	66.8	67.8	67.8	1.0	1.5	No
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.5	66.8	66.8	0.3	1.5	No
357	Michelson Drive	Carlson to Prince	67.0	67.3	67.3	0.3	1.5	No
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.0	67.3	67.3	0.3	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.8	66.8	66.8	0.0	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	66.3	66.7	66.7	0.4	1.5	No
361	Michelson Drive	Jamboree Road to Carlson	69.5	69.6	69.6	0.1	1.5	No
362	Michelson Drive	Teller to Jamboree Road	69.5	69.6	69.6	0.1	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.8	66.9	66.9	0.1	1.5	No
364	Michelson Drive	Culver Drive to Angell	66.1	66.2	66.2	0.1	1.5	No

365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	71.7	71.7	0.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	60.6	61.1	61.0	0.4	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	67.2	67.1	67.2	0.0	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.3	66.3	66.3	0.0	1.5	No
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.2	66.3	66.3	0.1	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.7	66.6	66.6	-0.1	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.2	65.1	65.1	-0.1	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	62.1	61.9	61.8	-0.3	3.0	No
373	Northwood	Yale Avenue to Savannah	62.4	62.5	62.5	0.1	3.0	No
374	Northwood	Goldrush to Yale Avenue	61.3	61.5	61.5	0.2	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	67.4	69.2	69.2	1.8	1.5	**Yes**
376	Pacifica	Gateway to Barranca Parkway	64.6	65.2	65.2	0.6	3.0	No
377	Pacifica	Alton Parkway to Gateway	63.2	64.0	64.0	0.8	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	63.2	62.7	62.8	-0.4	3.0	No
379	Pacifica	Meridian to Alton Parkway	60.0	60.8	60.8	0.8	1.5	No
380	Park Place	Christamon South to Yale Avenue	57.0	57.0	57.0	0.0	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.3	71.5	71.7	0.4	1.5	No
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.3	71.5	71.7	0.4	1.5	No
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.3	71.4	71.5	0.2	1.5	No
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	70.9	71.0	71.1	0.2	1.5	No
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.0	70.1	70.1	0.1	1.5	No
386	Portola Parkway	Gatepark to Culver Drive	70.3	70.6	70.7	0.4	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.2	70.5	70.7	0.5	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.1	70.4	70.5	0.4	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	70.1	70.4	70.5	0.4	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.0	70.3	70.4	0.4	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	69.8	70.1	70.2	0.4	1.5	No
392	Portola Parkway	Culver Drive to Yale Avenue	69.4	69.6	69.7	0.3	1.5	No
393	Portola Parkway	Silverado to Portola Springs	68.5	68.5	68.6	0.1	1.5	No
394	Pusan	Irvine Boulevard to Cadence	56.1	56.2	56.1	0.0	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.6	67.4	67.4	-0.2	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.6	65.5	65.5	-0.1	1.5	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.9	54.8	54.9	0.0	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.3	71.5	71.6	0.3	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.9	70.1	70.2	0.3	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.9	70.0	70.1	0.2	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.7	69.9	70.0	0.3	1.5	No

402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.7	69.8	69.9	0.2	1.5	No
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.0	71.3	71.4	0.4	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	70.4	70.6	70.8	0.4	1.5	No
405	Research Drive	Hubble to Bake Parkway	69.5	69.5	69.5	0.0	1.5	No
406	Research Drive	Scientific to Lake Forest Drive	67.6	67.4	67.8	0.2	1.5	No
407	Research Drive	Bake Parkway to Muller	66.5	66.6	66.7	0.2	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	65.5	65.6	65.7	0.2	1.5	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.4	67.3	67.3	-0.1	1.5	No
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.5	66.4	66.4	-0.1	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	66.0	66.0	0.0	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	58.1	58.1	0.0	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	68.6	68.7	68.7	0.1	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.2	68.4	68.4	0.2	1.5	No
415	Rockfield Avenue	Whatney to McLaren	67.5	67.6	67.7	0.2	1.5	No
416	Rockfield Avenue	Bake Parkway to Whatney	63.8	64.1	64.2	0.4	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.6	63.1	63.1	0.5	3.0	No
418	Roosevelt	Jeffrey Road to Vision	66.1	66.5	66.6	0.5	1.5	No
419	Roosevelt	Yale Avenue to Van Buren	68.1	68.2	68.2	0.1	1.5	No
420	Roosevelt	Vision to Bay Tree	65.9	66.2	66.4	0.5	1.5	No
421	Roosevelt	Nimitz to Jeffrey Road	65.8	65.9	65.9	0.1	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.6	65.6	65.7	0.1	1.5	No
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	64.0	64.0	0.0	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	71.9	72.1	72.1	0.2	1.5	No
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	71.6	71.9	72.0	0.4	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.4	74.6	74.6	0.2	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.6	72.7	72.7	0.1	1.5	No
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.6	74.6	74.8	0.2	1.5	No
429	Sand Canyon Avenue	Trabuco Road to Towngate	71.3	71.1	71.3	0.0	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	70.6	70.8	70.9	0.3	1.5	No
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	73.8	73.8	74.0	0.2	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.4	70.6	70.6	0.2	1.5	No
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.4	73.5	73.5	0.1	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.4	73.5	73.5	0.1	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.5	73.5	73.7	0.2	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.6	70.4	70.7	0.1	1.5	No
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.0	70.2	70.3	0.3	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	69.3	69.2	70.4	1.1	1.5	No

439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	72.8	72.8	0.0	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.5	70.6	70.6	0.1	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.6	71.7	71.8	0.2	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.9	55.0	54.9	0.0	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.8	69.2	69.2	0.4	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.3	67.5	67.6	0.3	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	60.2	59.6	59.6	-0.6	3.0	No
446	Southwood	Yale Avenue to Colt	60.5	60.5	60.6	0.1	3.0	No
447	Southwood	Challenger to Yale Avenue	60.3	60.2	60.3	0.0	3.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.9	61.9	62.0	0.1	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.4	62.4	62.5	0.1	3.0	No
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.0	57.6	57.6	0.6	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	69.9	70.6	70.6	0.7	1.5	No
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	67.1	69.2	69.3	2.2	1.5	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	66.1	69.1	69.1	3.0	1.5	**Yes**
454	Technology Drive	Ada to Alton Parkway	59.9	63.0	63.1	3.2	5.0	No
455	Toledo Way	Bake Parkway to City Limits	65.8	65.7	65.7	-0.1	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.9	64.7	64.7	-0.2	3.0	No
457	Toledo Way	Alton Parkway to Parker	64.5	64.3	64.4	-0.1	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.0	67.1	67.2	0.2	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.9	66.9	66.9	0.0	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.6	66.7	66.8	0.2	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.5	66.6	66.7	0.2	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.5	66.5	66.6	0.1	1.5	No
463	Trabuco Road	Yale Avenue to Remington	66.0	66.2	66.3	0.3	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	66.0	66.0	66.1	0.1	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.8	68.8	68.7	-0.1	1.5	No
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.5	67.8	67.8	0.3	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.4	67.7	67.8	0.4	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.8	67.0	67.0	0.2	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	64.0	64.0	0.0	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	64.0	64.1	64.0	0.0	3.0	No
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.4	65.4	65.4	0.0	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.6	72.9	73.0	0.4	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.3	72.5	72.6	0.3	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.5	72.8	72.9	0.4	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.2	72.3	72.4	0.2	1.5	No

476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.4	72.7	72.7	0.3	1.5	No
477	University Drive	Mesa to Campus Drive	74.2	74.5	74.6	0.4	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.2	74.4	74.6	0.4	1.5	No
479	University Drive	California Avenue to Mesa	74.1	74.3	74.4	0.3	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	70.3	70.6	70.7	0.4	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.3	71.5	71.7	0.4	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.0	70.1	70.3	0.3	1.5	No
483	University Drive	San Joaquin to Culver Drive	69.4	69.7	69.8	0.4	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	69.4	69.7	69.8	0.4	1.5	No
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.0	68.0	68.0	0.0	1.5	No
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	67.6	69.0	69.1	1.5	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	65.7	66.7	66.8	1.1	1.5	No
488	Valley Oak Drive	Alton Parkway to Hawkcreek	65.0	64.8	64.8	-0.2	1.5	No
489	Von Karman Avenue	Marriott to Morse Avenue	70.6	70.9	70.9	0.3	1.5	No
490	Von Karman Avenue	Michelson Drive to Quartz	70.4	70.7	70.8	0.4	1.5	No
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.1	70.7	70.7	0.6	1.5	No
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	69.7	70.3	70.4	0.7	1.5	No
493	Von Karman Avenue	Main Street to Anchor	69.9	70.6	70.6	0.7	1.5	No
494	Von Karman Avenue	Anchor to McGaw Avenue	69.9	70.4	70.5	0.6	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.9	70.2	70.2	0.3	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	69.2	69.5	69.6	0.4	1.5	No
497	Von Karman Avenue	Campus Drive to Martin	69.2	69.5	69.5	0.3	1.5	No
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.2	69.5	69.5	0.3	1.5	No
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	70.5	70.9	70.9	0.4	1.5	No
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.9	69.1	69.1	0.2	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.5	68.7	68.8	0.3	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.4	68.7	68.7	0.3	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.1	68.4	68.5	0.4	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.1	68.4	68.3	0.2	1.5	No
505	Walnut Avenue	Culver Drive to Franciscan Street	68.1	68.3	68.4	0.3	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.6	67.9	68.0	0.4	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.5	67.8	67.8	0.3	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	67.0	67.1	67.2	0.2	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	67.0	67.1	67.2	0.2	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.1	70.2	70.1	0.0	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	68.4	68.6	68.5	0.1	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.8	67.0	67.0	0.2	1.5	No

513	Warner Avenue	Santa Ynez to Culver Drive	65.6	66.0	66.0	0.4	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	65.1	65.7	65.7	0.6	1.5	No
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	64.0	64.0	0.0	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.8	63.8	63.9	0.1	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	63.6	63.9	63.9	0.3	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.9	62.9	62.8	-0.1	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	62.1	62.9	63.0	0.9	3.0	No
520	West Yale Loop	Warner Avenue to Stonecreek South	62.4	62.6	62.6	0.2	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	62.4	62.4	0.0	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	62.0	62.4	62.5	0.5	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	62.2	62.3	62.3	0.1	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.6	63.6	63.5	-0.1	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.6	61.5	61.5	-0.1	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	68.6	68.6	0.0	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.4	67.3	67.3	-0.1	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.9	71.0	71.0	0.1	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	67.1	67.0	67.1	0.0	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	67.0	66.9	66.9	-0.1	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.8	66.3	66.4	0.6	1.5	No
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.7	65.7	65.7	0.0	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.7	65.7	65.7	0.0	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.6	65.6	65.7	0.1	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.6	65.4	65.5	-0.1	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	65.3	65.1	65.1	-0.2	1.5	No
537	Yale Avenue	Bryan Avenue to Monticello	65.2	65.0	65.0	-0.2	1.5	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.3	64.3	64.3	0.0	3.0	No
539	Yale Avenue	University Drive to Royce	63.0	63.4	63.5	0.5	3.0	No
540	Yale Court	Arborwood to Portola Parkway	60.3	60.3	60.3	0.0	3.0	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria ?

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ada
Road Segment: Barranca Parway to Marine Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-59.51	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-63.47	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	24.9	23.8	22.0	16.0	24.6	25.2
Medium Trucks:	18.9	18.2	11.8	10.3	18.7	19.0
Heavy Trucks:	20.2	19.6	10.5	11.8	20.1	20.3
Vehicle Noise:	26.9	26.0	22.7	18.2	26.7	27.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ada
Road Segment: Alton Parkway to Barranca PArkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	330 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-23.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-27.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.0	56.9	55.2	49.1	57.7	58.4
Medium Trucks:	52.0	51.3	45.0	43.4	51.9	52.1
Heavy Trucks:	53.3	52.7	43.7	44.9	53.3	53.4
Vehicle Noise:	60.0	59.1	55.8	51.3	59.8	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	131
CNEL:	14	30	65	141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Enterprise to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,482	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.19	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.9	62.2	55.8	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.0	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	205	442	952
CNEL:	102	220	475	1,022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: I-5 NB Off-Ramp to Technology Drive West

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,787 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.37	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.86	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.82	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.1	63.5	54.4	55.7	64.1	64.2
Vehicle Noise:	71.8	70.9	67.8	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	220	474	1,021
CNEL:	110	236	509	1,097

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,401 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	55.0	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	331	712
CNEL:	77	165	355	765

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Gateway Boulevard to Enterprise

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,211 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	703
CNEL:	76	163	351	755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Jeffrey Road to Royal Oak

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,815	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	591
CNEL:	63	137	295	635

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Daimler Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	413 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-6.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-23.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-27.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	55.3	54.6	48.2	46.7	55.2	55.4
Heavy Trucks:	55.7	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	63.4	62.5	59.4	54.7	63.2	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	24	51	110	236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,947 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.1	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	67	143	309	665

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,906 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	283	611
CNEL:	66	141	304	656

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,459 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.50	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.74	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.70	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	355	765
CNEL:	82	177	382	822

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Creek Road to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,823	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.1	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.2
Vehicle Noise:	69.9	68.9	65.9	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	593
CNEL:	64	137	296	637

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Red Hill Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,147 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.8	60.1	60.2
Vehicle Noise:	67.8	66.9	63.9	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	202	435
CNEL:	47	101	217	468

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,799	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.7	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.8	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	587
CNEL:	63	136	293	631

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Telemetry to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,411 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	232	500
CNEL:	54	116	249	537

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Irvine Boulevard to Commercentre

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,789	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.19	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	821
CNEL:	88	190	409	882

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Jenner to Telemetry

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,403	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	53	115	248	535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Irvine Center Drive to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,889 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.2	59.6	53.2	51.6	60.1	60.3
Heavy Trucks:	60.6	60.1	51.0	52.3	60.6	60.7
Vehicle Noise:	68.4	67.4	64.4	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	294	633
CNEL:	68	147	316	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Sand Canyon Avenue to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,153 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.92	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.32	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.27	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	64.2	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	71.9	71.0	67.9	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	360	776
CNEL:	83	180	387	834

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Laguna Canyon Road to Jenner

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	53	115	248	535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Technology Drive East to Barranca Pkwy/Muirlands Blvd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,129 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.37	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.2	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	68.9	68.0	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	318	685
CNEL:	74	159	342	736

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Royal Oak to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,551 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.50	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.1	61.4	61.5
Vehicle Noise:	69.2	68.2	65.2	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	532
CNEL:	57	123	265	572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,221 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.5	66.2	66.8
Medium Trucks:	60.0	59.3	52.9	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	211	454
CNEL:	49	105	226	487

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Barranca Pkwy/Muirlands Blvd to Jeronimo Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,657 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.83	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	369	795
CNEL:	85	184	396	854

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Ada to Technology Drive East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,162	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	693
CNEL:	74	160	345	744

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,312 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Jeronimo Road to Hughes

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,467 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.51	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.73	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.4	60.7	54.3	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	351	756
CNEL:	81	175	377	813

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Hughes to Morgan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,335	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	61.6	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	69.3	68.4	65.3	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	729
CNEL:	78	169	364	783

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Morgan to Toledo Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,972 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.54	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.70	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	60.8	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	68.5	67.6	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	651
CNEL:	70	151	325	700

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: San Marino to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,972	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.54	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.70	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	60.8	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	68.5	67.6	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	651
CNEL:	70	151	325	700

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.8	66.8	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	268	578
CNEL:	62	134	288	621

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Hospital to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,543 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.53	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.76	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.72	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	668

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,691 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.13	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.36	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.32	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	307	661
CNEL:	71	153	330	710

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Murphy Avenue to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,675 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.9	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	584
CNEL:	63	135	291	628

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Foster to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,625	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.4
Medium Trucks:	59.6	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	266	573
CNEL:	62	133	286	615

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Fairbanks to Foster

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,469	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.2
Heavy Trucks:	59.5	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.3	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	248	535
CNEL:	58	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Toledo Way to Bertea

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,716 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	67.9	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	276	594
CNEL:	64	137	296	638

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Pacifica to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,221 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.54	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.78	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.74	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	532
CNEL:	57	123	265	571

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Bertea to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,675	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.9	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	584
CNEL:	63	135	291	628

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Meridian to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,188	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	58.6	58.0	49.0	50.3	58.6	58.7
Vehicle Noise:	66.3	65.4	62.4	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	216	465
CNEL:	50	108	232	499

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Paseo Westpark to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,601 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.60	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.6	66.7	63.7	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	263	567
CNEL:	61	131	283	609

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,279 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.5	57.9	51.5	50.0	58.4	58.6
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	66.7	65.7	62.7	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	488
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Astor
Road Segment: Lynx to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.60	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-24.84	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-28.80	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.8	53.7	52.0	45.9	54.5	55.1
Medium Trucks:	49.3	48.6	42.3	40.7	49.2	49.4
Heavy Trucks:	51.8	51.2	42.1	43.4	51.7	51.9
Vehicle Noise:	57.3	56.4	52.8	48.6	57.1	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	52
CNEL:	6	12	26	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Astor
Road Segment: Cadence to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-41.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-58.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-62.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	21.4	20.3	18.5	12.5	21.1	21.7
Medium Trucks:	15.9	15.2	8.8	7.3	15.8	16.0
Heavy Trucks:	18.3	17.7	8.7	10.0	18.3	18.4
Vehicle Noise:	23.9	23.0	19.4	15.2	23.7	24.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: I-5 NB Off-Ramp to Rockfield Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	71,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,899	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.30	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-11.94	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-15.90	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.4	72.3	70.6	64.5	73.1	73.7
Medium Trucks:	67.0	66.3	59.9	58.4	66.8	67.1
Heavy Trucks:	67.4	66.8	57.8	59.0	67.4	67.5
Vehicle Noise:	75.1	74.2	71.1	66.3	74.9	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	212	456	983	2,118
CNEL:	228	490	1,056	2,276

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Muirlands Boulevard to Jeronimo Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,859 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.3	63.7	57.3	55.7	64.2	64.4
Heavy Trucks:	64.7	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.5	71.5	68.5	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	256	552	1,188
CNEL:	128	275	593	1,277

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Rockfield Boulevard to Muirlands Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,107 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.67	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.57	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.52	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	69.9	63.9	72.5	73.1
Medium Trucks:	66.3	65.7	59.3	57.8	66.2	66.4
Heavy Trucks:	66.7	66.2	57.1	58.4	66.7	66.9
Vehicle Noise:	74.5	73.5	70.5	65.7	74.3	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	192	415	893	1,924
CNEL:	207	445	960	2,067

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Jeronimo Road to Toledo Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,001 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.0	69.7	70.3
Medium Trucks:	63.5	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.6	70.7	67.7	62.9	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	225	485	1,044
CNEL:	112	242	521	1,122

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Toledo Way to Cromwell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,704 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.3	70.4	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	214	460	992
CNEL:	107	230	495	1,066

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Cromwell to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,581 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	970
CNEL:	104	224	483	1,042

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Research Drive to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,823 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.1	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	618
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Irvine Center Drive to Research Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	660 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-21.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-25.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.0	59.3	53.2	61.8	62.4
Medium Trucks:	55.7	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	56.1	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	63.8	62.9	59.8	55.0	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	314
CNEL:	34	73	157	337

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Lake Forest Drive to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	404 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-6.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-23.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-27.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	53.5	52.9	46.5	44.9	53.4	53.6
Heavy Trucks:	53.9	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	61.7	60.7	57.7	52.9	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	113	243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Banting
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	248 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.1	54.1	52.3	46.2	54.9	55.5
Medium Trucks:	49.3	48.7	42.3	40.8	49.2	49.5
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	57.4	56.5	53.0	48.6	57.2	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	87
CNEL:	9	20	43	93

Saturday, March 2, 2024

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Pacifica to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,576	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	631
CNEL:	68	146	315	679

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,642	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.4	69.5	66.6	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	301	649
CNEL:	70	150	324	698

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: I-5 HOV Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,337 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.6	68.6	65.7	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	262	566
CNEL:	61	131	282	608

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,543	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	311	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Irvine Center Drive to I-5 HOV Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,180 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	60.9	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	520
CNEL:	56	121	260	560

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,178 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.7	70.7	67.8	62.9	71.5	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	783
CNEL:	84	182	391	843

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,038 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	71.4	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	348	749
CNEL:	81	174	374	806

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.3	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	346	745
CNEL:	80	173	372	802

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,469 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	602
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,848	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.8	62.1	55.7	54.2	62.7	62.9
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	71.0	70.0	67.1	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	702
CNEL:	76	163	350	755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Red Hill Avenue to Armstrong Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,912	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.82	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-15.42	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-19.37	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	155	335	721	1,553
CNEL:	167	360	775	1,671

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Discovery/Herchel to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,312	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.3	60.6	54.2	52.7	61.2	61.4
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.5	68.5	65.6	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	559
CNEL:	60	129	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Lyon to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,757 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.9	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	315	679
CNEL:	73	157	339	730

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Creek Road to Lyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,724 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	311	670
CNEL:	72	155	335	721

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,591 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.31	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.93	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.88	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	71.2	70.3	67.3	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	432	930
CNEL:	100	216	464	1,001

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Sand Canyon Avenue to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.1	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	68.2	67.3	64.4	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	463
CNEL:	50	107	231	498

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Armstrong Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,904 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.81	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.43	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.39	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.7	70.8	67.8	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	466	1,004
CNEL:	108	233	501	1,080

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,130 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.6	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	60.7	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	68.8	67.9	64.9	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	235	506
CNEL:	54	117	253	544

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Jamboree Road to Construction Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,104 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.7	61.0	54.6	53.1	61.6	61.8
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.9	68.9	66.0	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	370	798
CNEL:	86	185	399	859

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Santa Rosa to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,947 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.5	68.6	65.7	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	352	758
CNEL:	82	176	378	815

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: FedEx to Discovery/Herchel

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,056 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	60.4	59.8	50.7	52.0	60.4	60.5
Vehicle Noise:	68.5	67.6	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	224	483
CNEL:	52	112	241	520

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Jeffrey Road to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	949 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	59.9	59.2	52.8	51.3	59.8	60.0
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	68.1	67.1	64.2	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	450
CNEL:	48	104	225	484

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Laguna Canyon Road to FedEx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,048 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.86	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.5	67.6	64.6	59.7	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	240	517

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Pullman Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,516 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.19	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-16.05	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-20.01	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.4	71.5	68.6	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	303	654	1,409
CNEL:	152	327	703	1,516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Construction Circle to Fire Station

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,782 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.0	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	69.1	68.2	65.3	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	332	715
CNEL:	77	166	357	769

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Fire Station to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,782 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.0	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	69.1	68.2	65.3	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	332	715
CNEL:	77	166	357	769

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Paseo Westpark to Santa Rosa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.67	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.63	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	60.8	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	60.9	60.3	51.2	52.5	60.9	61.0
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	325	701
CNEL:	75	163	350	754

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,691 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.54	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.8
Heavy Trucks:	60.8	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	320	690
CNEL:	74	160	345	742

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bay Tree
Road Segment: Trabuco Road to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	173 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-25.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-29.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.6	52.5	50.8	44.7	53.3	53.9
Medium Trucks:	47.8	47.1	40.8	39.2	47.7	47.9
Heavy Trucks:	49.7	49.1	40.0	41.3	49.6	49.8
Vehicle Noise:	55.8	54.9	51.5	47.1	55.6	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	74

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Beacon
Road Segment: Ridge Valley to Benchmark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-41.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-58.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-62.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	21.4	20.3	18.5	12.5	21.1	21.7
Medium Trucks:	15.9	15.2	8.8	7.3	15.8	16.0
Heavy Trucks:	18.3	17.7	8.7	10.0	18.3	18.4
Vehicle Noise:	23.9	23.0	19.4	15.2	23.7	24.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Benchmark (LN Street)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-41.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-58.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-62.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	21.4	20.3	18.5	12.5	21.1	21.7
Medium Trucks:	15.9	15.2	8.8	7.3	15.8	16.0
Heavy Trucks:	18.3	17.7	8.7	10.0	18.3	18.4
Vehicle Noise:	23.9	23.0	19.4	15.2	23.7	24.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bison Avenue
Road Segment: SR-73 NB Off-Ramp to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,683 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.2	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	472
CNEL:	51	109	235	506

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bonita Canyon Drive
Road Segment: MacArthur Boulevard to SR-73

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,401 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.39	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.84	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-19.80	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.7
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	69.8	68.8	65.8	61.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	325	701
CNEL:	75	162	350	753

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bonita Canyon Drive
Road Segment: Turtle Ridge to Shady Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,353 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.10	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.33	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-22.29	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.4	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	478
CNEL:	51	111	239	514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bonita Canyon Drive
Road Segment: Newport Coast Drive to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,353 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.10	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.33	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-22.29	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.4	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	478
CNEL:	51	111	239	514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bonita Canyon Drive
Road Segment: SR-73 NB Off-Ramp to Newport Coast Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,353 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.10	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.33	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-22.29	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.4	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	478
CNEL:	51	111	239	514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bosque
Road Segment: Cadence to Great Park Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	635 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-2.16	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.40	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.2	57.4	51.3	60.0	60.6
Medium Trucks:	54.7	54.1	47.7	46.2	54.6	54.8
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	62.7	61.9	58.2	54.0	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	120
CNEL:	13	27	59	128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bosque
Road Segment: Irvine Boulevard to Benchmark (LN Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	297 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.46	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-22.70	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-26.66	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.9	55.9	54.1	48.0	56.7	57.3
Medium Trucks:	51.4	50.8	44.4	42.9	51.3	51.5
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	59.4	58.6	54.9	50.7	59.3	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	33	72
CNEL:	8	17	36	77

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bosque
Road Segment: Benchmark to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	297 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.46	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-22.70	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-26.66	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.9	55.9	54.1	48.0	56.7	57.3
Medium Trucks:	51.4	50.8	44.4	42.9	51.3	51.5
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	59.4	58.6	54.9	50.7	59.3	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	33	72
CNEL:	8	17	36	77

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bosque
Road Segment: Great Park Boulevard to Beacon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-41.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-58.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-62.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	21.4	20.3	18.5	12.5	21.1	21.7
Medium Trucks:	15.9	15.2	8.8	7.3	15.8	16.0
Heavy Trucks:	18.3	17.7	8.7	10.0	18.3	18.4
Vehicle Noise:	23.9	23.0	19.4	15.2	23.7	24.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bosque
Road Segment: Beacon to S 5th Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-41.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-58.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-62.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	21.4	20.3	18.5	12.5	21.1	21.7
Medium Trucks:	15.9	15.2	8.8	7.3	15.8	16.0
Heavy Trucks:	18.3	17.7	8.7	10.0	18.3	18.4
Vehicle Noise:	23.9	23.0	19.4	15.2	23.7	24.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Jamboree Road to Market Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,708	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Market Place to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,708	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Rubicon to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,708	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: El Camino Real to Rubicon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,708 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Eastwood to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	875	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	57.4	56.8	50.4	48.9	57.3	57.6
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.5	64.6	61.5	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	66	142	305
CNEL:	33	70	152	327

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Westwood to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	982	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	329
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Culver Drive to Westwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	982	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	329
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Yale Avenue to Eastwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	875	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	57.4	56.8	50.4	48.9	57.3	57.6
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.5	64.6	61.5	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	66	142	305
CNEL:	33	70	152	327

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cadence
Road Segment: Pusan to Chinon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	454 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.87	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.11	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.07	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.3	61.2	59.4	53.4	62.0	62.6
Medium Trucks:	56.3	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.6	57.0	47.9	49.2	57.5	57.7
Vehicle Noise:	64.3	63.4	60.1	55.6	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	70	152
CNEL:	16	35	75	162

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cadence
Road Segment: Bosque to Pusan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	586 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.76	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.00	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-24.96	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.4	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	58.7	58.1	49.0	50.3	58.7	58.8
Vehicle Noise:	65.4	64.5	61.2	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	180
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cadence
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	289 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.83	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-24.07	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-28.03	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.5	51.4	60.0	60.7
Medium Trucks:	54.3	53.6	47.3	45.7	54.2	54.4
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	112
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cadence
Road Segment: Chinon to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	289 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.83	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-24.07	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-28.03	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.5	51.4	60.0	60.7
Medium Trucks:	54.3	53.6	47.3	45.7	54.2	54.4
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	112
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cadence
Road Segment: Merit to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-59.51	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-63.47	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	24.9	23.8	22.0	16.0	24.6	25.2
Medium Trucks:	18.9	18.2	11.8	10.3	18.7	19.0
Heavy Trucks:	20.2	19.6	10.5	11.8	20.1	20.3
Vehicle Noise:	26.9	26.0	22.7	18.2	26.7	27.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: California Avenue
Road Segment: University Drive to Academy Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	825 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	56.0	55.3	48.9	47.4	55.8	56.1
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.0	63.1	59.8	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	242
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: California Avenue
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	644 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.55	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.8	58.1	52.0	60.6	61.3
Medium Trucks:	54.9	54.2	47.9	46.3	54.8	55.0
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	62.9	62.0	58.7	54.2	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	205
CNEL:	22	47	102	219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: California Avenue
Road Segment: Theory to Bison Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	627 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.8	59.7	58.0	51.9	60.5	61.1
Medium Trucks:	54.8	54.1	47.7	46.2	54.7	54.9
Heavy Trucks:	56.1	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	62.8	61.9	58.6	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	93	201
CNEL:	22	46	100	216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Carlson Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.94	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-18.18	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-22.13	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	537
CNEL:	58	124	268	577

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: University Drive to Bridge Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,832 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.9	69.0	65.9	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	276	595
CNEL:	64	138	296	639

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Jamboree Road to Carlson Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	53	115	248	535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Stanford Court to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,832 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.9	69.0	65.9	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	276	595
CNEL:	64	138	296	639

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: California Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,361 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	60.9	60.3	51.2	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.6	59.8	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	488
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Berkeley Avenue to Cornell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,361 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	60.9	60.3	51.2	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.6	59.8	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	488
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Martin to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	998 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	67.2	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	397
CNEL:	43	92	198	426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Culver Drive to Paseo Montoya (Turtle Rock Drive)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,246 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.1	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	460
CNEL:	49	106	229	494

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Von Karman Avenue to Teller Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	850 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-20.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-24.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.5	65.6	62.6	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: MacArthur Boulevard to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	998	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	67.2	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	397
CNEL:	43	92	198	426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Teller Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	850 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-20.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-24.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.5	65.6	62.6	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Carlson Avenue
Road Segment: Michelson Drive to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	56.1	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	56.5	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	64.2	63.3	60.2	55.4	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	115	249
CNEL:	27	58	124	267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Chinon
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	223 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-5.92	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.16	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.11	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.4	52.4	50.6	44.6	53.2	53.8
Medium Trucks:	48.3	47.6	41.3	39.7	48.2	48.4
Heavy Trucks:	51.5	50.9	41.9	43.1	51.5	51.6
Vehicle Noise:	56.3	55.5	51.6	47.7	56.2	56.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	10	21	45
CNEL:	5	10	22	48

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Creek Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	322 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-21.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-25.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.2	51.1	49.3	43.3	51.9	52.5
Medium Trucks:	47.0	46.3	40.0	38.4	46.9	47.1
Heavy Trucks:	50.2	49.6	40.6	41.8	50.2	50.3
Vehicle Noise:	55.0	54.2	50.3	46.4	54.9	55.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	61
CNEL:	7	14	30	65

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,447 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	64.9	64.3	57.9	56.4	64.8	65.0
Heavy Trucks:	65.0	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	73.1	72.2	69.2	64.4	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	283	610	1,315
CNEL:	141	305	656	1,414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,447 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	64.9	64.3	57.9	56.4	64.8	65.0
Heavy Trucks:	65.0	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	73.1	72.2	69.2	64.4	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	283	610	1,315
CNEL:	141	305	656	1,414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,736 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.8	69.0	62.9	71.6	72.2
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.2	64.6	55.6	56.9	65.2	65.3
Vehicle Noise:	73.4	72.5	69.5	64.6	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	137	295	636	1,371
CNEL:	147	318	685	1,475

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Scottsdale Drive to I-5 SB Off- Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,736	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.8	69.0	62.9	71.6	72.2
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.2	64.6	55.6	56.9	65.2	65.3
Vehicle Noise:	73.4	72.5	69.5	64.6	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	137	295	636	1,371
CNEL:	147	318	685	1,475

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: I-405 NB Off-Ramp to San Leandro

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,447 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	64.9	64.3	57.9	56.4	64.8	65.0
Heavy Trucks:	65.0	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	73.1	72.2	69.2	64.4	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	283	610	1,315
CNEL:	141	305	656	1,414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: San Leandro to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,249 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	275	592	1,275
CNEL:	137	296	637	1,372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Harvard Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,820	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.00	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.24	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.1	62.0	70.6	71.2
Medium Trucks:	64.3	63.6	57.2	55.7	64.2	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.5	71.5	68.6	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	256	551	1,188
CNEL:	128	275	593	1,278

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Trabuco Road to Farwell Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,736	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.93	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.31	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.26	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.2	71.2	69.4	63.3	72.0	72.6
Medium Trucks:	65.6	64.9	58.6	57.0	65.5	65.7
Heavy Trucks:	65.6	65.1	56.0	57.3	65.6	65.8
Vehicle Noise:	73.8	72.9	69.9	65.0	73.6	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	139	300	645	1,390
CNEL:	150	322	694	1,496

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,927 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.1	64.4	64.5
Vehicle Noise:	72.6	71.7	68.7	63.8	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	562	1,210
CNEL:	130	280	604	1,302

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Main Street to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,828 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.19	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.1	62.0	70.6	71.2
Medium Trucks:	64.3	63.6	57.2	55.7	64.2	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.5	71.5	68.6	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	256	552	1,190
CNEL:	128	276	594	1,280

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Warner Avenue to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,754 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	68.0	61.9	70.5	71.1
Medium Trucks:	64.2	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.2	63.6	54.6	55.9	64.2	64.3
Vehicle Noise:	72.4	71.5	68.5	63.6	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	117	253	545	1,174
CNEL:	126	272	586	1,263

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Walnut Avenue to Scottsdale Dive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,696 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.1	63.5	57.1	55.5	64.0	64.2
Heavy Trucks:	64.2	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	539	1,162
CNEL:	125	269	580	1,250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,688	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.8	70.5	71.1
Medium Trucks:	64.1	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.1	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	539	1,160
CNEL:	125	269	579	1,248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Shady Canyon Drive to Palo Verde

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,906 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.3	69.9
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	71.1	70.2	67.2	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	154	333	716
CNEL:	77	166	358	771

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Deerfield Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,440 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.54	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.69	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.4	67.6	61.5	70.2	70.8
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	63.8	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	72.0	71.1	68.1	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	239	514	1,108
CNEL:	119	257	553	1,192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Sandburg Way to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,135	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.4	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	71.6	70.7	67.7	62.8	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	483	1,041
CNEL:	112	241	520	1,120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,267 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.6	63.0	54.0	55.3	63.6	63.7
Vehicle Noise:	71.8	70.9	67.9	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	231	497	1,070
CNEL:	115	248	534	1,151

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Palo Verde to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,906	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.3	69.9
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	71.1	70.2	67.2	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	154	333	716
CNEL:	77	166	358	771

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: University Drive to Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,879	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.42	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.0	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	71.2	70.3	67.4	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	212	457	984
CNEL:	106	228	491	1,058

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Farwell Avenue to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.70	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.54	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.50	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.3	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,150
CNEL:	124	267	574	1,238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Campus Drive to High School

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,962	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.4	70.4	67.5	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,003
CNEL:	108	232	501	1,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: High School to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,962	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.4	70.4	67.5	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,003
CNEL:	108	232	501	1,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Bryan Avenue to Florence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,846 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	71.2	70.3	67.3	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	210	453	976
CNEL:	105	226	488	1,050

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Portola Parkway to Settlers

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,081 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.4	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	60.5	59.9	50.8	52.1	60.5	60.6
Vehicle Noise:	68.6	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	491
CNEL:	53	114	245	528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Florence to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,772	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.2	69.8
Medium Trucks:	62.9	62.2	55.8	54.3	62.8	63.0
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	71.1	70.1	67.2	62.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	445	959
CNEL:	103	222	479	1,032

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Irvine Boulevard to Viewpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.6
Vehicle Noise:	69.7	68.8	65.8	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	361	777
CNEL:	84	180	388	836

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Viewpark to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.6
Vehicle Noise:	69.7	68.8	65.8	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	361	777
CNEL:	84	180	388	836

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Settlers to Furrow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-43.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-60.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-64.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	25.9	24.8	23.0	17.0	25.6	26.2
Medium Trucks:	19.3	18.6	12.2	10.7	19.2	19.4
Heavy Trucks:	19.3	18.7	9.7	10.9	19.3	19.4
Vehicle Noise:	27.5	26.5	23.6	18.7	27.3	27.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Meadowood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,378	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.67	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	59.8	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	279	602
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Discovery Drive
Road Segment: Irvine Center Drive to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-27.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-31.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.3	53.2	51.5	45.4	54.0	54.6
Medium Trucks:	48.3	47.6	41.2	39.7	48.2	48.4
Heavy Trucks:	49.6	49.0	40.0	41.2	49.6	49.7
Vehicle Noise:	56.3	55.4	52.1	47.6	56.1	56.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	34	74
CNEL:	8	17	37	79

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Discovery Drive
Road Segment: Waterworks Way to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-59.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-63.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	22.0	20.9	19.2	13.1	21.7	22.3
Medium Trucks:	16.0	15.3	8.9	7.4	15.8	16.1
Heavy Trucks:	17.3	16.7	7.7	8.9	17.3	17.4
Vehicle Noise:	24.0	23.1	19.8	15.3	23.8	24.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: East Yale Loop
Road Segment: Alton Parkway to Witherspoon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	899	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.3	59.5	53.5	62.1	62.7
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	57.7	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	64.4	63.5	60.2	55.7	64.2	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	55	119	256
CNEL:	27	59	127	274

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: East Yale Loop
Road Segment: Osborn Street to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	842 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	56.0	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	57.4	56.8	47.7	49.0	57.3	57.5
Vehicle Noise:	64.1	63.2	59.9	55.4	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	53	114	245
CNEL:	26	57	122	262

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: East Yale Loop
Road Segment: Yale Avenue to Springbrook South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.4	53.9	54.1
Heavy Trucks:	55.3	54.8	45.7	47.0	55.3	55.4
Vehicle Noise:	62.1	61.2	57.9	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	180
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: East Yale Loop
Road Segment: Springbrook North to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.4	53.9	54.1
Heavy Trucks:	55.3	54.8	45.7	47.0	55.3	55.4
Vehicle Noise:	62.1	61.2	57.9	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	180
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: East Yale Loop
Road Segment: Woodspring to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.4	53.9	54.1
Heavy Trucks:	55.3	54.8	45.7	47.0	55.3	55.4
Vehicle Noise:	62.1	61.2	57.9	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	180
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: East Yale Loop
Road Segment: Barranca Parkway to Eastshore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.4	53.9	54.1
Heavy Trucks:	55.3	54.8	45.7	47.0	55.3	55.4
Vehicle Noise:	62.1	61.2	57.9	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	180
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Eastwood
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	198 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.89	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-25.13	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-29.09	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.0	56.0	54.2	48.2	56.8	57.4
Medium Trucks:	51.3	50.6	44.2	42.7	51.2	51.4
Heavy Trucks:	53.1	52.5	43.5	44.7	53.1	53.2
Vehicle Noise:	59.3	58.4	55.0	50.6	59.1	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	70
CNEL:	8	16	35	75

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Eastwood
Road Segment: Columbus to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	157 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.91	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-26.15	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-30.10	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	55.0	53.2	47.1	55.8	56.4
Medium Trucks:	50.3	49.6	43.2	41.7	50.1	50.4
Heavy Trucks:	52.1	51.5	42.5	43.7	52.1	52.2
Vehicle Noise:	58.3	57.4	53.9	49.5	58.1	58.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	28	60
CNEL:	6	14	30	64

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: El Camino Real
Road Segment: Jamboree Road to Alliance (SR-261 Bridge)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,526 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.7
Heavy Trucks:	60.0	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	66.7	65.8	62.5	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	364
CNEL:	39	84	181	390

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: El Camino Real North
Road Segment: El Camino Real to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	512 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.55	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.9	57.1	51.0	59.7	60.3
Medium Trucks:	53.9	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	55.2	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	61.9	61.0	57.7	53.2	61.7	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	176
CNEL:	19	41	87	188

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Fairbanks
Road Segment: Alton Parkway to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	215 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-8.13	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-25.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-29.32	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	58.0	56.2	50.1	58.8	59.4
Medium Trucks:	53.0	52.3	46.0	44.4	52.9	53.1
Heavy Trucks:	54.3	53.7	44.7	45.9	54.3	54.4
Vehicle Noise:	61.0	60.1	56.9	52.3	60.8	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	92
CNEL:	10	21	46	98

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Fairbanks
Road Segment: Irvine Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-59.51	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-63.47	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	24.9	23.8	22.0	16.0	24.6	25.2
Medium Trucks:	18.9	18.2	11.8	10.3	18.7	19.0
Heavy Trucks:	20.2	19.6	10.5	11.8	20.1	20.3
Vehicle Noise:	26.9	26.0	22.7	18.2	26.7	27.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Fairchild Road
Road Segment: MacArthur Boulevard to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.2	60.1	58.4	52.3	60.9	61.6
Medium Trucks:	55.0	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	55.8	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	63.0	62.1	59.0	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	209
CNEL:	22	48	104	224

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Gateway Boulevard
Road Segment: Alton Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	314 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.3	53.2	51.4	45.4	54.0	54.6
Medium Trucks:	48.8	48.1	41.7	40.2	48.7	48.9
Heavy Trucks:	51.3	50.7	41.6	42.9	51.2	51.4
Vehicle Noise:	56.8	55.9	52.3	48.1	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Gateway Boulevard
Job Number: 15937
Road Segment: Spectrum Center Drive (Fortune Drive) to Alton Parkway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	545 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-2.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-20.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-24.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.7	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	51.2	50.5	44.1	42.6	51.1	51.3
Heavy Trucks:	53.7	53.1	44.0	45.3	53.6	53.8
Vehicle Noise:	59.2	58.3	54.7	50.5	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	54	116
CNEL:	12	27	57	123

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Gateway Boulevard
Road Segment: Irvine Center Drive to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	297 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	53.0	51.2	45.2	53.8	54.4
Medium Trucks:	48.5	47.9	41.5	40.0	48.4	48.7
Heavy Trucks:	51.0	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	56.5	55.7	52.0	47.9	56.4	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Great Park Boulevard
Road Segment: Sand Canyon to Ridge Valley

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,485 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.69	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.93	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.89	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.5	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	70.3	69.3	66.3	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	281	606
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Great Park Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	446 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-23.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-27.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	55.6	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	63.7	62.8	59.8	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	54	116	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Great Park Boulevard (EB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-43.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-60.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-64.44	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	27.6	26.5	24.8	18.7	27.3	27.9
Medium Trucks:	21.2	20.5	14.1	12.6	21.1	21.3
Heavy Trucks:	21.6	21.0	12.0	13.2	21.6	21.7
Vehicle Noise:	29.3	28.4	25.3	20.5	29.1	29.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Great Park Boulevard (WB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-43.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-60.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-64.44	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	27.6	26.5	24.8	18.7	27.3	27.9
Medium Trucks:	21.2	20.5	14.1	12.6	21.1	21.3
Heavy Trucks:	21.6	21.0	12.0	13.2	21.6	21.7
Vehicle Noise:	29.3	28.4	25.3	20.5	29.1	29.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: University Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,568 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.00	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-17.24	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-21.19	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.9	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	70.9	70.0	66.9	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	195	420
CNEL:	45	97	209	451

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Michelson Drive to Coronado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,046 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.08	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.2
Heavy Trucks:	62.0	61.4	52.3	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	537
CNEL:	58	124	268	576

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: San Marino to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.1	60.4	54.0	52.5	61.0	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.2	68.2	65.1	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	533
CNEL:	57	123	265	572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Coronado to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,980 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	69.1	68.2	65.0	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	244	526
CNEL:	56	121	262	564

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: San Carlo to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.1	60.4	54.0	52.5	61.0	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.2	68.2	65.1	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	533
CNEL:	57	123	265	572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Main Street to San Carlo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,980 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	69.1	68.2	65.0	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	244	526
CNEL:	56	121	262	564

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Alton Parkway to San Leon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	68.3	67.4	64.2	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	100	216	466
CNEL:	50	108	232	499

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: San Juan to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	68.3	67.4	64.2	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	100	216	466
CNEL:	50	108	232	499

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: San Leon to San Juan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,584 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	210	453
CNEL:	49	105	226	486

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	825 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.0	57.4	48.4	49.7	58.0	58.1
Vehicle Noise:	65.3	64.4	61.2	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	68	146	315

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Deerfield Avenue to Poplar Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	825 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.0	57.4	48.4	49.7	58.0	58.1
Vehicle Noise:	65.3	64.4	61.2	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	68	146	315

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,345 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.3	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	60.1	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	67.4	66.5	63.3	58.6	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	189	406
CNEL:	44	94	202	436

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Bridge Road to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,221 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	67.0	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	381
CNEL:	41	88	190	409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Paseo Westpark to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Poplar Street to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.44	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-20.68	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-24.64	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.3	58.7	49.7	51.0	59.3	59.4
Vehicle Noise:	66.6	65.7	62.5	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	133	286
CNEL:	31	66	143	307

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: California Avenue to Berkeley Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Culver Drive to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Berkeley to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Warner Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	908 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.4	57.9	48.8	50.1	58.4	58.5
Vehicle Noise:	65.7	64.8	61.6	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	313
CNEL:	34	72	156	335

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Hicks Canyon Drive
Road Segment: Delamesa to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.27	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	75.75	-25.51	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	81.57	-29.46	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.7	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	50.0	49.3	42.9	41.4	49.8	50.1
Heavy Trucks:	51.8	51.2	42.2	43.4	51.8	51.9
Vehicle Noise:	58.0	57.1	53.6	49.3	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Hornet (5th St)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-40.23	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-57.47	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-61.43	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	19.1	18.1	16.3	10.3	18.9	19.5
Medium Trucks:	14.0	13.3	6.9	5.4	13.9	14.1
Heavy Trucks:	17.2	16.6	7.6	8.8	17.2	17.3
Vehicle Noise:	22.0	21.2	17.3	13.4	21.9	22.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Hubble
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	173 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.01	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.25	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-28.21	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.4	51.3	49.5	43.5	52.1	52.7
Medium Trucks:	47.2	46.5	40.2	38.6	47.1	47.3
Heavy Trucks:	50.4	49.8	40.8	42.0	50.4	50.5
Vehicle Noise:	55.2	54.4	50.5	46.6	55.1	55.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	18	38
CNEL:	4	9	19	40

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: SR-133 NB Off- Ramp to Ridge Valley (O Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,308 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	68.0	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	501	1,079
CNEL:	116	250	539	1,161

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: SR-133 SB Off-Ramp to SR-133 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,226 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	53.9	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,061
CNEL:	114	246	530	1,142

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Sand Canyon to SR-133 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,589 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.73	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.51	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.47	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.1	70.8	71.4
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.9	54.8	56.1	64.4	64.6
Vehicle Noise:	72.6	71.7	68.7	63.8	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	249	536	1,156
CNEL:	124	268	577	1,243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Merit to Alton

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,813	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	62.9	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	969
CNEL:	104	225	484	1,042

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Journey to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,822 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	71.1	70.2	67.3	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	451	971
CNEL:	104	225	485	1,044

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,533 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	419	903
CNEL:	97	209	451	972

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Pusan Way to Chinon (B Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,442 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.3	61.7	55.3	53.7	62.2	62.4
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	409	882
CNEL:	95	204	440	948

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Palo Lado to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,236	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.1	69.2	66.3	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	831
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Culver Drive to Palo Lado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,285 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.4	53.7	62.1	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	391	843
CNEL:	91	195	421	907

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Old Myford Road to Market Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,186	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.57	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.0	69.1	66.2	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	380	819
CNEL:	88	190	409	881

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Bosque (LY Street) to Modjeska

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,302 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	847
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Jamboree Road to Old Myford Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,186 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.57	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.0	69.1	66.2	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	380	819
CNEL:	88	190	409	881

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Market Place to SR-261 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,178 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	61.9
Heavy Trucks:	61.9	61.3	52.2	53.5	61.8	62.0
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	817
CNEL:	88	189	408	879

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Jeffrey Road to Groveland

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,335 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.33	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.2
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	856
CNEL:	92	198	427	920

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Bake Parkway to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,964 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.13	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.09	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.4	60.7	54.3	52.8	61.3	61.5
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.6	68.6	65.7	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	762
CNEL:	82	177	381	820

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Independence Way (The Groves)/The Groves to JeffreyRoad

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,145 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.75	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	375	809
CNEL:	87	187	404	870

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Chinon (B Street) to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,153	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.51	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.73	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.69	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	811
CNEL:	87	188	405	872

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: SR-261 NB Off-Ramp to Central Park

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,087 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.8	68.9	66.0	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	369	794
CNEL:	85	184	396	854

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Pueblo Norte to Independence Way (The Groves)/ Parkwood

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,005 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.7	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	167	359	773
CNEL:	83	179	386	831

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Yale Avenue to Pueblo Norte

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,005 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.7	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	167	359	773
CNEL:	83	179	386	831

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Modjeska to Pusan Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,046 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.7	68.8	65.9	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	783
CNEL:	84	182	391	843

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Central Park Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,823 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	69.2	68.3	65.4	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	156	337	726
CNEL:	78	168	362	781

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Parker to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,601 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	143	309	665
CNEL:	72	154	332	716

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Alton Parkway to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,411 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	59.9	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	68.1	67.2	64.3	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	284	611
CNEL:	66	142	305	658

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Irvine Center Drive
Job Number: 15937
Road Segment: Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,176 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.61	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.63	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.58	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	421	908
CNEL:	98	210	453	975

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Orange Tree to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,401 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.4	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	743
CNEL:	80	172	370	798

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: I-405 SB Off-Ramp to Research

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,904 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.22	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.02	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.97	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	855
CNEL:	92	198	426	919

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Irvine Valley College to Orange Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,401 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.4	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	743
CNEL:	80	172	370	798

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Fontaine Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,285 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.18	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.06	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.01	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.5	60.9	51.8	53.1	61.4	61.6
Vehicle Noise:	69.2	68.3	65.2	60.4	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	334	719
CNEL:	77	166	358	772

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Culver Drive to Deerwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,426 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	80	173	373	803

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Deerwood to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,368	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.3	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	736
CNEL:	79	170	367	791

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Yale Avenue to Fontaine Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,236 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.0	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.1	60.3	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	329	708
CNEL:	76	164	353	761

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Jeffrey Road to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,401 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.4	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	743
CNEL:	80	172	370	798

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Alton Parkway to Spectrum

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,013 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	307	660
CNEL:	71	153	329	710

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Spectrum to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.65	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.59	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.6	60.9	61.0
Vehicle Noise:	68.6	67.7	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	307	662
CNEL:	71	153	330	711

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Hearthstone to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,145 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	320	689
CNEL:	74	159	344	740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Charter to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,691 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	59.7	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	67.9	67.0	63.9	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	588
CNEL:	63	136	293	632

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Jamboree Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,426 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	80	173	373	803

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Pacifica to Entertainment (Enterprise/Fortune)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,104 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.82	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.9	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	316	680
CNEL:	73	157	339	731

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,667 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	59.7	59.0	52.6	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	582
CNEL:	63	135	290	626

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Harvard Avenue to Hearthstone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,145 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	320	689
CNEL:	74	159	344	740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Research to Hubble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,584 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.6	66.7	63.6	58.8	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	563
CNEL:	60	130	281	605

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Barranca Parkway to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,279 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.5	57.9	51.5	50.0	58.4	58.6
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	66.7	65.7	62.7	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	488
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,584 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.6	66.7	63.6	58.8	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	563
CNEL:	60	130	281	605

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Discovery to Charter

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,378 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.5	56.4	65.0	65.6
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.3	58.7	49.6	50.9	59.3	59.4
Vehicle Noise:	67.0	66.1	63.0	58.2	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	111	238	513
CNEL:	55	119	256	551

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,559 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.67	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.8	63.0	56.9	65.6	66.2
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.5	66.6	63.6	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	557
CNEL:	60	129	278	598

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Muller to Tesla

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,518	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.1
Medium Trucks:	59.3	58.6	52.2	50.7	59.2	59.4
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.4	66.5	63.4	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	547
CNEL:	59	127	273	588

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Sand Canyon Avenue to Odyssey

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,493 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	67.3	66.4	63.4	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	251	541
CNEL:	58	125	270	581

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Tesla to Scientific Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,328 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.18	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.8	65.9	62.9	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	232	501
CNEL:	54	116	250	538

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Scientific Way to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,353 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.6
Medium Trucks:	58.8	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	235	507
CNEL:	54	117	253	544

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Gateway Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,213 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.57	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.3	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	58.7	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	66.4	65.5	62.5	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	219	471
CNEL:	51	109	235	506

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Laguna Canyon Road to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,238 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.5	65.6	62.6	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	477
CNEL:	51	111	238	513

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Odyssey to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,254 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	58.9	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	66.6	65.7	62.6	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	224	482
CNEL:	52	112	240	518

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive (Edinger)
Road Segment: Redhill Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,376 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.6	61.1	52.0	53.3	61.6	61.7
Vehicle Noise:	69.4	68.4	65.4	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	738
CNEL:	79	171	368	792

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: I-5 SB Off-Ramp to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,486	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.57	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.67	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.6	63.6	72.2	72.8
Medium Trucks:	65.8	65.2	58.8	57.3	65.7	66.0
Heavy Trucks:	65.9	65.3	56.3	57.5	65.9	66.0
Vehicle Noise:	74.0	73.1	70.2	65.3	73.8	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	151	326	702	1,512
CNEL:	163	350	755	1,627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	73,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	6,056	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.00	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.24	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.20	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.3	72.2	70.5	64.4	73.0	73.6
Medium Trucks:	66.7	66.0	59.6	58.1	66.6	66.8
Heavy Trucks:	66.7	66.1	57.1	58.3	66.7	66.8
Vehicle Noise:	74.9	73.9	71.0	66.1	74.7	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	164	353	760	1,638
CNEL:	176	380	818	1,762

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Walnut Avenue to Michelle Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,538 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.7	71.4	72.0
Medium Trucks:	65.0	64.3	58.0	56.4	64.9	65.1
Heavy Trucks:	65.1	64.5	55.4	56.7	65.0	65.2
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	133	287	618	1,332
CNEL:	143	309	665	1,433

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: I-405 NB Off-Ramp to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	73,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	6,056	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.00	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.24	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.20	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.7	73.6	71.8	65.8	74.4	75.0
Medium Trucks:	68.1	67.4	61.0	59.5	67.9	68.2
Heavy Trucks:	68.1	67.5	58.5	59.7	68.1	68.2
Vehicle Noise:	76.2	75.3	72.4	67.5	76.0	76.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	253	545	1,174	2,530
CNEL:	272	586	1,263	2,722

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Michelle Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,538 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.7	71.4	72.0
Medium Trucks:	65.0	64.3	58.0	56.4	64.9	65.1
Heavy Trucks:	65.1	64.5	55.4	56.7	65.0	65.2
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	133	287	618	1,332
CNEL:	143	309	665	1,433

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Main Street to Kelvin Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,049	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.21	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.03	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.98	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.9	72.8	71.1	65.0	73.6	74.2
Medium Trucks:	67.3	66.6	60.2	58.7	67.2	67.4
Heavy Trucks:	67.3	66.7	57.7	58.9	67.3	67.4
Vehicle Noise:	75.5	74.5	71.6	66.7	75.3	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	224	483	1,040	2,241
CNEL:	241	519	1,119	2,411

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	74,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,130 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	130 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	88.792
Medium Trucks:	88.747
Heavy Trucks:	88.792

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.05	-3.84	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.19	-3.84	-1.20	*-4.96*	0.000	0.000
Heavy Trucks:	86.40	-16.14	-3.84	-1.20	*-5.14*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	69.0	62.9	71.5	72.1
Medium Trucks:	65.2	64.5	58.1	56.6	65.1	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.4	72.4	69.5	64.6	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	179	385	830	1,788
CNEL:	192	414	893	1,923

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Kelvin Avenue to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,744	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.94	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.30	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.26	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.6	72.5	70.8	64.7	73.3	74.0
Medium Trucks:	67.0	66.3	60.0	58.4	66.9	67.1
Heavy Trucks:	67.0	66.4	57.4	58.7	67.0	67.1
Vehicle Noise:	75.2	74.3	71.3	66.4	75.0	75.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	215	463	998	2,150
CNEL:	231	498	1,074	2,313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,678	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.88	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.36	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.32	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.5	72.5	70.7	64.7	73.3	73.9
Medium Trucks:	66.9	66.3	59.9	58.4	66.8	67.1
Heavy Trucks:	67.0	66.4	57.3	58.6	67.0	67.1
Vehicle Noise:	75.1	74.2	71.2	66.4	74.9	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	213	459	989	2,130
CNEL:	229	494	1,064	2,291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Birch Street to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,325	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.40	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.9	70.9	68.0	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	503	1,083
CNEL:	116	251	541	1,165

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,927 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.12	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.12	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.08	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.3	68.6	62.5	71.1	71.8
Medium Trucks:	64.8	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	64.8	64.2	55.2	56.5	64.8	64.9
Vehicle Noise:	73.0	72.1	69.1	64.2	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	264	570	1,227
CNEL:	132	284	613	1,320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Alton Parkway to Beckman

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,447	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.66	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.58	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.54	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.3	72.3	70.5	64.4	73.1	73.7
Medium Trucks:	66.7	66.0	59.7	58.1	66.6	66.8
Heavy Trucks:	66.7	66.2	57.1	58.4	66.7	66.9
Vehicle Noise:	74.9	74.0	71.0	66.2	74.7	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	206	444	956	2,059
CNEL:	222	477	1,028	2,215

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Fairchild Road to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,094	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.08	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.16	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.11	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	72.0	71.0	68.1	63.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	486	1,047
CNEL:	113	243	523	1,126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Beckman to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,265	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.48	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.76	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.72	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.1	70.3	64.3	72.9	73.5
Medium Trucks:	66.5	65.9	59.5	58.0	66.4	66.7
Heavy Trucks:	66.6	66.0	56.9	58.2	66.6	66.7
Vehicle Noise:	74.7	73.8	70.8	66.0	74.5	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	200	431	930	2,003
CNEL:	215	464	1,000	2,155

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: I-5 NB Off-Ramp to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,142 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.35	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.89	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.85	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.0	72.0	70.2	64.1	72.8	73.4
Medium Trucks:	66.4	65.7	59.4	57.8	66.3	66.5
Heavy Trucks:	66.4	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.6	73.7	70.7	65.8	74.4	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	196	423	912	1,964
CNEL:	211	455	981	2,113

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Campus Drive to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,317 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.38	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.85	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.81	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	236	509	1,097
CNEL:	118	254	548	1,180

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: El Camino Real to West Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,142	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.35	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.89	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.85	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.0	72.0	70.2	64.1	72.8	73.4
Medium Trucks:	66.4	65.7	59.4	57.8	66.3	66.5
Heavy Trucks:	66.4	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.6	73.7	70.7	65.8	74.4	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	196	423	912	1,964
CNEL:	211	455	981	2,113

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: West Drive to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,142	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.35	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.89	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.85	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.0	72.0	70.2	64.1	72.8	73.4
Medium Trucks:	66.4	65.7	59.4	57.8	66.3	66.5
Heavy Trucks:	66.4	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.6	73.7	70.7	65.8	74.4	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	196	423	912	1,964
CNEL:	211	455	981	2,113

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,779	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.95	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.29	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.24	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.6	69.8	63.7	72.4	73.0
Medium Trucks:	66.0	65.3	59.0	57.4	65.9	66.1
Heavy Trucks:	66.0	65.5	56.4	57.7	66.0	66.2
Vehicle Noise:	74.2	73.3	70.3	65.4	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	185	398	857	1,847
CNEL:	199	428	922	1,987

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Koll Center to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,714	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.51	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.72	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.68	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.2
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	71.4	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	445	959
CNEL:	103	222	479	1,032

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: MacArthur Boulevard to Koll Center

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,830 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.69	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.54	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.50	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.4	62.7	56.3	54.8	63.3	63.5
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.6	70.6	67.7	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	213	458	986
CNEL:	106	229	493	1,061

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Irvine Boulevard to Portola Pakway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.6
Vehicle Noise:	69.7	68.8	65.8	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	361	777
CNEL:	84	180	388	836

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Warner Avenue to Edinger Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	83,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,922 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.58	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-11.66	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-15.61	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	77.1	76.1	74.3	68.2	76.9	77.5
Medium Trucks:	70.5	69.9	63.5	61.9	70.4	70.6
Heavy Trucks:	70.5	70.0	60.9	62.2	70.5	70.7
Vehicle Noise:	78.7	77.8	74.8	69.9	78.5	79.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	236	509	1,096	2,361
CNEL:	254	547	1,179	2,540

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	68,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,668 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.71	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.53	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.48	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.3	75.2	73.4	67.4	76.0	76.6
Medium Trucks:	69.7	69.0	62.6	61.1	69.5	69.8
Heavy Trucks:	69.7	69.1	60.1	61.3	69.7	69.8
Vehicle Noise:	77.8	76.9	74.0	69.1	77.6	78.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	207	445	959	2,066
CNEL:	222	479	1,032	2,223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Edinger Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	64,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,280 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.40	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.83	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.79	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.9	74.9	73.1	67.1	75.7	76.3
Medium Trucks:	69.3	68.7	62.3	60.8	69.2	69.5
Heavy Trucks:	69.4	68.8	59.7	61.0	69.4	69.5
Vehicle Noise:	77.5	76.6	73.6	68.8	77.3	77.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	197	425	915	1,971
CNEL:	212	457	984	2,120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Walnut Avenue to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,166 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.2
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.6	69.7	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	97	208	448	966

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: I-5 NB Off-Ramp to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,703 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.77	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.47	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.42	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	64.3	63.8	54.7	56.0	64.3	64.5
Vehicle Noise:	71.6	70.7	67.5	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	213	460	990
CNEL:	106	229	493	1,062

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Poplar (Meadows) to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,680 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.4	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	62.3	53.2	54.5	62.9	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	385	829
CNEL:	89	192	413	889

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,647 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.8	62.2	53.2	54.5	62.8	62.9
Vehicle Noise:	70.1	69.2	66.0	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	824
CNEL:	88	190	410	884

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Irvine Center Drive to Poplar (Meadows)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,539 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.54	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.70	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.66	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	375	808
CNEL:	87	187	402	866

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: I-405 NB Off-Ramp to Quail Creek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,663 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	384	826
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Barranca Parkway to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,581 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.0	69.1	65.9	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	378	814
CNEL:	87	188	405	873

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Quail Creek to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,663	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	384	826
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Irvine Valley College to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,482 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	69.9	69.0	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	371	799
CNEL:	86	185	398	857

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Trabuco Road to Hideaway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,945	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.1	68.2	65.1	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	332	714
CNEL:	77	165	356	766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Hideaway to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,945 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.1	68.2	65.1	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	332	714
CNEL:	77	165	356	766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Roosevelt to Grove

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,069 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.92	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.32	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.28	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.7	68.8	65.7	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	346	745
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Grove to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,069 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.92	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.32	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.28	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.7	68.8	65.7	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	346	745
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,186 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.4
Medium Trucks:	59.8	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	586
CNEL:	63	135	292	628

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Encore to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	858	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-19.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-23.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	314
CNEL:	34	73	156	337

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Irvine Boulevard to Encore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	858	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-19.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-23.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	314
CNEL:	34	73	156	337

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeronimo Road
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	635 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.3	61.2	59.5	53.4	62.0	62.6
Medium Trucks:	56.1	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	64.1	63.2	60.1	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	114	246
CNEL:	26	57	123	264

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeronimo Road
Road Segment: Alton Parkway to Goodyear

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	594 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	55.8	55.1	48.7	47.2	55.6	55.9
Heavy Trucks:	56.6	56.0	47.0	48.2	56.6	56.7
Vehicle Noise:	63.8	62.9	59.8	55.1	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	109	236
CNEL:	25	54	117	253

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Old Laguna Canyon Road to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,688 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.8	70.5	71.1
Medium Trucks:	64.1	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.1	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	539	1,160
CNEL:	125	269	579	1,248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Laguna Canyon Freeway to Quail Hill Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	825 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.0	57.0	65.6	66.2
Medium Trucks:	59.3	58.6	52.2	50.7	59.2	59.4
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	67.5	66.5	63.6	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	190	410
CNEL:	44	95	205	441

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Discovery to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	421 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-6.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-23.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-27.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	56.4	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	64.5	63.6	60.6	55.8	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	121	262
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: I-405 Overcrossing to Pasteur

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	454 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.84	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-23.08	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-27.03	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.6	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.1	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	65.8	64.8	61.8	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	55	118	253
CNEL:	27	59	126	272

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Irvine Center Drive to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	322 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-7.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-24.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-28.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	55.2	54.5	48.1	46.6	55.1	55.3
Heavy Trucks:	55.2	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	63.4	62.4	59.5	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	24	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Quail Hill Parkway to I-405 Overcrossing

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	454 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.84	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-23.08	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-27.03	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.6	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.1	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	65.8	64.8	61.8	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	55	118	253
CNEL:	27	59	126	272

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Pasteur to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-23.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-27.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.1	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	65.2	64.3	61.4	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	292
CNEL:	31	68	146	314

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Waterworks to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	388 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-6.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-24.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-28.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.5	59.8	53.7	62.3	62.9
Medium Trucks:	56.0	55.3	49.0	47.4	55.9	56.1
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	64.2	63.2	60.3	55.4	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	115	248
CNEL:	27	57	124	267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	421 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-6.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-23.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-27.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	56.4	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	64.5	63.6	60.6	55.8	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	121	262
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	338 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-7.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-24.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-28.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	55.4	54.7	48.4	46.8	55.3	55.5
Heavy Trucks:	55.4	54.8	45.8	47.1	55.4	55.5
Vehicle Noise:	63.6	62.7	59.7	54.8	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	113	243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lake Forest Drive
Road Segment: Hidden Canyon to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,196 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	208	448
CNEL:	48	104	223	481

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lake Forest Drive
Road Segment: Bake Parkway to Hidden Canyon (Romano)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,196 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	208	448
CNEL:	48	104	223	481

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lake Forest Drive
Road Segment: Tesla to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	883	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-20.19	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-24.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	56.9	56.2	49.9	48.3	56.8	57.0
Heavy Trucks:	57.3	56.8	47.7	49.0	57.3	57.4
Vehicle Noise:	65.1	64.1	61.1	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	381
CNEL:	41	88	190	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lake Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	479 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.60	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	70.80	-19.84	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	77.97	-23.79	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.8	53.0	47.0	55.6	56.2
Medium Trucks:	50.7	50.0	43.6	42.1	50.6	50.8
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	58.7	57.9	54.0	50.1	58.6	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	40	86
CNEL:	9	20	43	92

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lynx
Road Segment: Irvine Boulevard to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-40.23	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-57.47	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-61.43	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	19.1	18.1	16.3	10.3	18.9	19.5
Medium Trucks:	14.0	13.3	6.9	5.4	13.9	14.1
Heavy Trucks:	17.2	16.6	7.6	8.8	17.2	17.3
Vehicle Noise:	22.0	21.2	17.3	13.4	21.9	22.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: I-405 SB Off-Ramp to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,274	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.11	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-14.13	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-18.09	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.2	73.2	71.4	65.3	74.0	74.6
Medium Trucks:	67.5	66.8	60.4	58.9	67.3	67.6
Heavy Trucks:	67.1	66.5	57.5	58.8	67.1	67.2
Vehicle Noise:	75.7	74.8	71.9	66.9	75.5	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	232	501	1,079	2,324
CNEL:	250	539	1,162	2,503

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Main Street to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,150 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	2.98	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-14.26	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-18.21	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.1	73.0	71.3	65.2	73.8	74.4
Medium Trucks:	67.3	66.7	60.3	58.7	67.2	67.4
Heavy Trucks:	67.0	66.4	57.4	58.6	67.0	67.1
Vehicle Noise:	75.6	74.6	71.8	66.8	75.4	75.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	228	491	1,058	2,279
CNEL:	245	529	1,139	2,454

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: I-405 NB Off-Ramp and I-405 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,977 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	2.79	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-14.44	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-18.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.9	72.8	71.1	65.0	73.6	74.2
Medium Trucks:	67.1	66.5	60.1	58.6	67.0	67.3
Heavy Trucks:	66.8	66.2	57.2	58.4	66.8	66.9
Vehicle Noise:	75.4	74.5	71.6	66.6	75.2	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	221	477	1,028	2,215
CNEL:	239	514	1,107	2,385

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Jamboree Road to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,127 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.00	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.24	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.19	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.4	68.5	65.3	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	744
CNEL:	80	172	370	798

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Fairchild Road to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,127 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.00	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.24	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.19	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.4	68.5	65.3	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	744
CNEL:	80	172	370	798

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Fitch to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,374 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.33	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.91	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.86	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.1	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	793
CNEL:	85	183	395	851

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Michelson Drive to Douglas

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,987	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.80	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-14.44	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-18.39	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.7	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.0	70.1	66.9	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	243	524	1,130
CNEL:	121	261	562	1,212

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Douglas to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,987	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.80	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-14.44	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-18.39	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.7	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.0	70.1	66.9	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	243	524	1,130
CNEL:	121	261	562	1,212

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Skypark to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,459	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.96	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.28	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.24	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.5	60.9	51.9	53.2	61.5	61.6
Vehicle Noise:	68.8	67.9	64.7	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	298	642
CNEL:	69	148	320	689

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Redhill Avenue to Skypark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,153 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.6
Vehicle Noise:	67.8	66.9	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	269	580
CNEL:	62	134	289	622

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Birch Street to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,510	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-17.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-21.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	58.2	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.0	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	66.2	65.3	62.2	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	212	458
CNEL:	49	106	228	491

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Campus Drive to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,601 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.09	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-17.15	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-21.10	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.0	60.5	51.4	52.7	61.0	61.1
Vehicle Noise:	68.3	67.4	64.2	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	346	745
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Gillette Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,681 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.33	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.91	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.86	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.1	68.2	65.1	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	316	681
CNEL:	73	157	339	730

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: MacArthur Boulevard to Mercantile

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,681 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.33	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.91	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.86	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.1	68.2	65.1	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	316	681
CNEL:	73	157	339	730

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Executive Park to MacArthur Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,980 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.3	58.7	52.3	50.8	59.2	59.4
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.4	66.5	63.4	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	548
CNEL:	59	127	273	588

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Von Karman Avenue to Cartwright

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,766 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	236	508
CNEL:	54	117	253	545

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: McDurmott to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,087 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.5	66.2
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	264	568
CNEL:	61	131	283	609

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Red Hill Avenue to Executive Circle

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,980 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.3	58.7	52.3	50.8	59.2	59.4
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.4	66.5	63.4	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	548
CNEL:	59	127	273	588

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Jamboree Road to Union

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,865 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.2	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	245	527
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,163 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.7	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.8	65.8	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	369
CNEL:	40	85	184	396

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Siglo to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,766 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	236	508
CNEL:	54	117	253	545

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Veneto to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,865	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.2	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	245	527
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Paseo Westpark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	957	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.8	57.2	50.8	49.3	57.7	57.9
Heavy Trucks:	58.7	58.1	49.0	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Harvard Avenue to San Mateo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	957	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.8	57.2	50.8	49.3	57.7	57.9
Heavy Trucks:	58.7	58.1	49.0	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Sand Canyon Avenue to Ridge Valley (O Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,188 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.69	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	77.72	-17.93	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	82.99	-21.89	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.6	65.3	65.9
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	67.5	66.6	63.4	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	333
CNEL:	36	77	165	356

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Alton Parkway to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-59.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-63.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	22.0	20.9	19.2	13.1	21.7	22.3
Medium Trucks:	16.0	15.3	8.9	7.4	15.8	16.1
Heavy Trucks:	17.3	16.7	7.7	8.9	17.3	17.4
Vehicle Noise:	24.0	23.1	19.8	15.3	23.8	24.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Lynx to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-59.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-63.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	22.0	20.9	19.2	13.1	21.7	22.3
Medium Trucks:	16.0	15.3	8.9	7.4	15.8	16.1
Heavy Trucks:	17.3	16.7	7.7	8.9	17.3	17.4
Vehicle Noise:	24.0	23.1	19.8	15.3	23.8	24.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: County Access to Treble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	264 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-24.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-28.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.0	56.0	54.2	48.2	56.8	57.4
Medium Trucks:	51.0	50.3	44.0	42.4	50.9	51.1
Heavy Trucks:	52.3	51.7	42.7	44.0	52.3	52.4
Vehicle Noise:	59.0	58.2	54.9	50.3	58.9	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	121

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Ridge Valley (O Street) to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	487 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	53.7	53.0	46.6	45.1	53.6	53.8
Heavy Trucks:	55.0	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	61.7	60.8	57.5	53.0	61.5	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Skyhawk to County Access

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	264 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-24.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-28.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.0	56.0	54.2	48.2	56.8	57.4
Medium Trucks:	51.0	50.3	44.0	42.4	50.9	51.1
Heavy Trucks:	52.3	51.7	42.7	44.0	52.3	52.4
Vehicle Noise:	59.0	58.2	54.9	50.3	58.9	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	121

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	58 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-13.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-31.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-35.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.4	49.4	47.6	41.6	50.2	50.8
Medium Trucks:	44.4	43.7	37.4	35.8	44.3	44.5
Heavy Trucks:	45.7	45.1	36.1	37.4	45.7	45.8
Vehicle Noise:	52.4	51.6	48.3	43.7	52.3	52.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	41
CNEL:	4	9	20	44

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Treble to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-59.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-63.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	22.0	20.9	19.2	13.1	21.7	22.3
Medium Trucks:	16.0	15.3	8.9	7.4	15.8	16.1
Heavy Trucks:	17.3	16.7	7.7	8.9	17.3	17.4
Vehicle Noise:	24.0	23.1	19.8	15.3	23.8	24.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: McGaw Avenue
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	53.9	53.3	46.9	45.3	53.8	54.0
Heavy Trucks:	55.8	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	61.9	61.0	57.6	53.2	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	176
CNEL:	19	41	87	188

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: McGaw Avenue
Road Segment: Red Hill Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	693 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.6	58.5	56.8	50.7	59.3	59.9
Medium Trucks:	53.8	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	55.7	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	61.8	60.9	57.5	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	81	173
CNEL:	19	40	86	185

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: McGaw Avenue
Road Segment: Daimler to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	536	vehicles
Vehicle Speed:	35	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-20.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-24.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	57.4	55.7	49.6	58.2	58.8
Medium Trucks:	52.7	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	54.6	54.0	44.9	46.2	54.5	54.7
Vehicle Noise:	60.7	59.8	56.4	52.0	60.5	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	31	68	146
CNEL:	16	34	72	156

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: McGaw Avenue
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	248 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.1	54.1	52.3	46.2	54.9	55.5
Medium Trucks:	49.3	48.7	42.3	40.8	49.2	49.5
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	57.4	56.5	53.0	48.6	57.2	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	87
CNEL:	9	20	43	93

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Meadowood
Road Segment: Culver Drive to Canyonwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	858	vehicles
Vehicle Speed:	25	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-0.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.4	53.6	47.5	56.2	56.8
Medium Trucks:	51.3	50.6	44.2	42.7	51.1	51.4
Heavy Trucks:	54.5	53.9	44.8	46.1	54.5	54.6
Vehicle Noise:	59.3	58.5	54.6	50.6	59.1	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	55	118
CNEL:	13	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Meridian
Road Segment: Spectrum to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.9	50.8	49.1	43.0	51.6	52.2
Medium Trucks:	46.4	45.7	39.4	37.8	46.3	46.5
Heavy Trucks:	48.9	48.3	39.3	40.5	48.9	49.0
Vehicle Noise:	54.4	53.5	49.9	45.7	54.2	54.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	27	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Meridian
Road Segment: Alton Parkway to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-25.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-29.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.8	49.7	48.0	41.9	50.5	51.1
Medium Trucks:	45.3	44.6	38.2	36.7	45.2	45.4
Heavy Trucks:	47.8	47.2	38.1	39.4	47.7	47.9
Vehicle Noise:	53.3	52.4	48.8	44.6	53.1	53.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	22	47
CNEL:	5	11	23	50

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Merit
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	421 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.16	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-20.40	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-24.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.2	55.1	53.4	47.3	55.9	56.6
Medium Trucks:	51.1	50.4	44.0	42.5	50.9	51.2
Heavy Trucks:	54.3	53.7	44.6	45.9	54.2	54.4
Vehicle Noise:	59.1	58.3	54.3	50.4	58.9	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	73

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Riparian to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,460	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.8	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	66.5	65.6	62.3	57.8	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Almond Tree Lane to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	677 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.14	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.38	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-24.33	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.4
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.0	65.1	61.8	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	92	198
CNEL:	21	46	98	212

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Von Karman Avenue to Obsidian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,452 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	66.5	65.6	62.3	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Parkside to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,279	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.9	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	65.9	65.0	61.7	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Gillman to Seton/Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	677 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.14	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.38	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-24.33	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.4
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.0	65.1	61.8	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	92	198
CNEL:	21	46	98	212

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Carlson to Prince

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,460 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.20	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	77.72	-17.03	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	82.99	-20.99	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.1	60.4	54.3	62.9	63.5
Medium Trucks:	57.2	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.5	57.9	48.8	50.1	58.5	58.6
Vehicle Noise:	65.2	64.3	61.0	56.5	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	348
CNEL:	37	80	173	373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: MacArthur Boulevard to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,452 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	66.5	65.6	62.3	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Harvard Avenue to Parkside

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,279 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.9	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	65.9	65.0	61.7	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Bixby to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	957 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.6	59.8	53.8	62.4	63.0
Medium Trucks:	56.6	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	57.9	57.3	48.3	49.6	57.9	58.0
Vehicle Noise:	64.6	63.7	60.5	55.9	64.5	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	57	124	267
CNEL:	29	62	133	286

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Jamboree Road to Carlson

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,460 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.20	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.03	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.99	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.7	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	61.1	60.5	51.4	52.7	61.0	61.2
Vehicle Noise:	67.8	66.9	63.6	59.1	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	415
CNEL:	44	96	206	444

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Teller to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,708 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.88	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.35	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.31	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.4	59.8	53.4	51.8	60.3	60.5
Heavy Trucks:	61.7	61.2	52.1	53.4	61.7	61.8
Vehicle Noise:	68.5	67.6	64.3	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	214	460
CNEL:	49	106	229	493

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Jordan East to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	512 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.35	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-21.59	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-25.55	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.3	57.6	51.2	49.7	58.2	58.4
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.3	65.4	62.1	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	165
CNEL:	18	38	82	177

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Culver Drive to Angell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	677 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.14	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.38	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	82.99	-24.33	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.3	49.3	50.6	58.9	59.0
Vehicle Noise:	65.6	64.8	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	93	199
CNEL:	21	46	99	213

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Modjeska (A Street)
Road Segment: Portola Springs to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	891 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	27.659
Medium Trucks:	27.514
Heavy Trucks:	27.659

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.45	3.75	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	79.45	-19.69	3.79	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	84.25	-23.65	3.75	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	63.2	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	70.4	69.5	66.3	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	72	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Modjeska (A Street)
Road Segment: South of Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	165 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-9.78	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-27.01	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-30.97	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.3	58.3	56.5	50.4	59.1	59.7
Medium Trucks:	53.1	52.4	46.1	44.5	53.0	53.2
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	61.2	60.2	57.1	52.4	61.0	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	94
CNEL:	10	22	47	100

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Muirlands Boulevard
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,007 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	335
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Muirlands Boulevard
Road Segment: Alton Parkway to Sterling

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Muirlands Boulevard
Road Segment: Wrigley to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Newport Coast Drive
Road Segment: SR-73 NB Off-Ramp to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,196 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.8	54.7	63.3	63.9
Medium Trucks:	57.6	56.9	50.5	49.0	57.5	57.7
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	65.6	64.7	61.4	56.9	65.4	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	71	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Newport Coast Drive
Road Segment: Turtle Crest to Bonita Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	974 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.6	59.9	53.8	62.4	63.1
Medium Trucks:	56.7	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	64.7	63.8	60.5	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	270
CNEL:	29	62	134	289

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Nightmist
Road Segment: Sand Canyon Avenue to Tulip (Road C)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	743 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-18.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-22.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.0	57.0	55.2	49.1	57.8	58.4
Medium Trucks:	52.5	51.8	45.5	43.9	52.4	52.6
Heavy Trucks:	55.0	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	60.5	59.7	56.0	51.8	60.4	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	31	66	142
CNEL:	15	33	70	152

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Northwood
Road Segment: Yale Avenue to Savannah

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	371 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.16	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-22.40	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.36	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.8	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	54.0	53.3	47.0	45.4	53.9	54.1
Heavy Trucks:	55.8	55.3	46.2	47.5	55.8	56.0
Vehicle Noise:	62.0	61.1	57.7	53.3	61.8	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	50	107
CNEL:	11	25	53	114

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Northwood
Road Segment: Goldrush to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	248 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.92	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.16	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.12	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.0	56.9	55.2	49.1	57.8	58.4
Medium Trucks:	52.2	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	54.1	53.5	44.5	45.7	54.1	54.2
Vehicle Noise:	60.2	59.4	55.9	51.5	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	40	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Oak Canyon Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.00	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-22.24	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-26.20	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.3	55.2	63.8	64.4
Medium Trucks:	57.9	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	58.7	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	195
CNEL:	21	45	97	209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Pacifica
Road Segment: Gateway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	668 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.0	54.4	48.0	46.5	54.9	55.2
Heavy Trucks:	56.4	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	63.1	62.2	58.9	54.4	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	210
CNEL:	22	48	104	225

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Pacifica
Road Segment: Alton Parkway to Gateway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	53.5	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.8	54.3	45.2	46.5	54.8	54.9
Vehicle Noise:	61.6	60.7	57.4	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	83	178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Pacifica
Road Segment: Irvine Center Drive to Fortune Drive (Spectrum Center Drive)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	454 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-22.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.4	58.3	56.6	50.5	59.1	59.7
Medium Trucks:	53.4	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	54.7	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	61.4	60.5	57.2	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	75	162
CNEL:	17	37	81	174

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Pacifica
Road Segment: Meridian to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	198 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-8.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-25.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-29.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.7	53.0	46.9	55.5	56.1
Medium Trucks:	49.8	49.1	42.7	41.2	49.6	49.9
Heavy Trucks:	51.1	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	57.8	56.9	53.6	49.1	57.6	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	93
CNEL:	10	22	46	100

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Park Place
Road Segment: Christamon South to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	297 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	53.0	51.2	45.2	53.8	54.4
Medium Trucks:	48.5	47.9	41.5	40.0	48.4	48.7
Heavy Trucks:	51.0	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	56.5	55.7	52.0	47.9	56.4	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Portola Parkway
Job Number: 15937
Road Segment: Bee Canyon Access Road to Sand Canyon Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,477 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	70.0	69.1	66.1	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	281	604
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Jeffrey Road to Bee Canyon Access Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,477 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	70.0	69.1	66.1	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	281	604
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Arrowhead to Ridge Valley Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,262 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	69.3	68.4	65.4	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	544
CNEL:	59	126	272	586

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Sand Canyon Avenue to Arrowhead

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,262 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	69.3	68.4	65.4	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	544
CNEL:	59	126	272	586

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Portola Springs to SR-241 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-23.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-27.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.1	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	65.2	64.3	61.4	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	292
CNEL:	31	68	146	314

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Gatepark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,873	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	739
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: ETC-6 (SR-261) NB Off-Ramp to Gatepark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,873	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	739
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,873 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	739
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Jamboree Road to Bellevue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,873	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	739
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Bellevue to ETC-6 (SR-261) SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,873 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	739
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Yale Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,469 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	68.3	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	292	628
CNEL:	68	146	314	676

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Culver Drive to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,469	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	68.3	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	292	628
CNEL:	68	146	314	676

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Silverado to Portola Springs

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	627 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.1	57.4	51.0	49.5	58.0	58.2
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	66.3	65.3	62.4	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	158	341
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Pusan
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	124 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-8.47	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-25.71	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-29.67	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.9	49.8	48.1	42.0	50.6	51.2
Medium Trucks:	45.7	45.1	38.7	37.2	45.6	45.9
Heavy Trucks:	48.9	48.4	39.3	40.6	48.9	49.0
Vehicle Noise:	53.8	52.9	49.0	45.1	53.6	54.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	7	14	30
CNEL:	3	7	15	32

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Quail Hill Parkway
Road Segment: Shady Canyon Drive to Passage

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,254 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	416

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Quail Hill Parkway
Road Segment: East Knollcrest to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	701 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	56.5	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.6	63.7	60.5	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	122	263
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Quassar Drive (Spectrum)
Job Number: 15937
Road Segment: Irvine Center Drive to Spectrum Center Drive (Fortune)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	149 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.68	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.92	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	77.97	-28.88	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.3	50.3	48.5	42.4	51.1	51.7
Medium Trucks:	46.2	45.5	39.1	37.6	46.0	46.3
Heavy Trucks:	49.4	48.8	39.7	41.0	49.3	49.5
Vehicle Noise:	54.2	53.4	49.5	45.5	54.0	54.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	7	16	35
CNEL:	4	8	17	37

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: MacArthur Boulevard to McGaw Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,152 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.6	69.7	66.6	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	890
CNEL:	96	206	444	957

Saturday, March 2, 2024

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: I-405 Over Crossing to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,625 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.2	60.6	54.2	52.6	61.1	61.3
Heavy Trucks:	61.6	61.1	52.0	53.3	61.6	61.7
Vehicle Noise:	69.4	68.4	65.4	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	274	590

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: Alton Parkway to Deere Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,310 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.3	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	156	336	724
CNEL:	78	168	361	778

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,211 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	703
CNEL:	76	163	351	755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: Deere Avenue to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,203 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	701
CNEL:	75	162	350	753

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: Skypark East to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,378	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.02	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.26	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.21	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	268	576
CNEL:	62	133	287	619

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: Main Street to Skypark East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,205 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.60	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.84	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.79	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.2	60.6	54.2	52.6	61.1	61.3
Heavy Trucks:	61.6	61.1	52.0	53.3	61.6	61.7
Vehicle Noise:	69.4	68.4	65.4	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	527
CNEL:	57	122	263	566

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Research Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	800 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.2	60.5	54.4	63.0	63.6
Medium Trucks:	57.1	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.1	64.2	61.1	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	133	287
CNEL:	31	66	143	308

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Research Drive
Road Segment: Scientific to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	833	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.2	56.6	50.2	48.7	57.1	57.3
Heavy Trucks:	58.1	57.5	48.4	49.7	58.1	58.2
Vehicle Noise:	65.3	64.4	61.3	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	137	295
CNEL:	32	68	147	317

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Research Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	957 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.8	57.2	50.8	49.3	57.7	57.9
Heavy Trucks:	58.7	58.1	49.0	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Research Drive
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.5	55.9	49.5	48.0	56.4	56.6
Heavy Trucks:	57.4	56.8	47.7	49.0	57.4	57.5
Vehicle Noise:	64.6	63.7	60.6	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	57	123	265
CNEL:	28	61	132	284

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Irvine Boulevard to Trabuco Road (Great Park Boulevard)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	817 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	291
CNEL:	31	67	145	312

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ridge Valley (O Street)
Road Segment: Portola Parkway to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	891 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	57.5	56.8	50.5	48.9	57.4	57.6
Heavy Trucks:	58.4	57.8	48.7	50.0	58.3	58.5
Vehicle Noise:	65.6	64.7	61.5	56.9	65.4	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	143	309
CNEL:	33	71	154	331

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Trabuco Road (Great Park Boulevard) to Marine Way

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	875 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	57.4	56.8	50.4	48.9	57.3	57.6
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.5	64.6	61.5	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	66	142	305
CNEL:	33	70	152	327

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ridge Valley (O Street)
Road Segment: Ranchland to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	74 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-13.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-30.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-34.44	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.9	54.8	53.0	47.0	55.6	56.2
Medium Trucks:	49.6	48.9	42.6	41.0	49.5	49.7
Heavy Trucks:	50.4	49.9	40.8	42.1	50.4	50.6
Vehicle Noise:	57.7	56.8	53.6	49.0	57.5	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	12	26	55
CNEL:	6	13	27	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ridgeline Drive
Road Segment: Concordia East to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,040	vehicles
Vehicle Speed:	35	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	40.0	feet
Centerline Dist. to Observer:	40.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.69	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.93	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.89	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	67.4	66.5	63.1	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	121	262
CNEL:	28	60	130	279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ridgeline Drive
Road Segment: Turtle Rock Drive to San Simeon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,040 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.69	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.93	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.89	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	67.4	66.5	63.1	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	121	262
CNEL:	28	60	130	279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Rockfield Avenue
Road Segment: Whatney to McLaren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Rockfield Avenue
Road Segment: Bake Parkway to Whatney

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	413 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-23.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.4	57.6	51.5	60.2	60.8
Medium Trucks:	54.2	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.0	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	62.3	61.3	58.2	53.5	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	185
CNEL:	20	43	92	198

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Rockfield Avenue
Road Segment: Thomas to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	413 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-23.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.4	57.6	51.5	60.2	60.8
Medium Trucks:	54.2	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.0	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	62.3	61.3	58.2	53.5	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	185
CNEL:	20	43	92	198

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Roosevelt
Road Segment: Jeffrey Road to Vision

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,031 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.9	56.3	49.9	48.4	56.8	57.0
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.0	64.1	60.8	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	130	281
CNEL:	30	65	139	300

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Roosevelt
Road Segment: Yale Avenue to Van Buren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	701 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.98	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-20.22	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-24.17	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.9	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	67.7	66.8	63.5	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	204
CNEL:	22	47	101	218

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Roosevelt
Road Segment: Vision to Bay Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	866	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.4	53.3	61.9	62.5
Medium Trucks:	56.2	55.5	49.1	47.6	56.1	56.3
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	64.2	63.3	60.0	55.5	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	250
CNEL:	27	58	124	267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Roosevelt
Road Segment: Nimitz to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,031 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.9	56.3	49.9	48.4	56.8	57.0
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.0	64.1	60.8	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	130	281
CNEL:	30	65	139	300

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Roosevelt
Road Segment: Tulip (Road C) to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	726 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.4	58.6	52.6	61.2	61.8
Medium Trucks:	55.4	54.7	48.4	46.8	55.3	55.5
Heavy Trucks:	56.7	56.1	47.1	48.4	56.7	56.8
Vehicle Noise:	63.4	62.5	59.3	54.7	63.3	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	222
CNEL:	24	51	110	238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Royal Oak
Road Segment: Alton Parkway to Eaglecreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	380 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.07	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	75.75	-22.31	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	81.57	-26.26	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.6	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	57.4	56.8	47.8	49.1	57.4	57.5
Vehicle Noise:	63.6	62.7	59.3	54.9	63.4	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	51	109
CNEL:	12	25	54	116

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Oak Canyon Drive to Burt Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,020 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	186	402	865
CNEL:	93	200	432	930

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Irvine Center Drive to Oak Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.3	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	396	853
CNEL:	92	197	425	916

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: I-405 NB Off-Ramp to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,020 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.39	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.85	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.80	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.8	71.4	72.0
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.6	65.0	56.0	57.3	65.6	65.7
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	210	451	973
CNEL:	104	225	485	1,045

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Burt Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,094 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.50	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.74	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.70	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	69.0	69.6
Medium Trucks:	62.8	62.1	55.7	54.2	62.7	62.9
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.9	70.0	66.9	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	414	892
CNEL:	96	206	445	958

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Marine to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,201 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.64	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.59	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.55	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.3	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	654	1,409
CNEL:	151	326	703	1,514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Trabuco Road to Towngate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,599 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	363	783
CNEL:	84	181	390	841

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,153 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	691
CNEL:	74	160	344	742

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: I-5 SB Off-Ramp to Marine

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,201 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.64	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.59	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.55	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.3	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	654	1,409
CNEL:	151	326	703	1,514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Hospital to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,211 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	703
CNEL:	76	163	351	755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Nightmist to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,696	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.27	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.97	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.93	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.9	64.3	57.9	56.4	64.8	65.0
Heavy Trucks:	65.3	64.8	55.7	57.0	65.3	65.5
Vehicle Noise:	73.1	72.1	69.1	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	155	334	720	1,551
CNEL:	167	359	774	1,667

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: I-405 SB Off-Ramp to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.13	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.10	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.06	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.6	61.5	70.1	70.7
Medium Trucks:	64.0	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.4	63.8	54.7	56.0	64.4	64.5
Vehicle Noise:	72.1	71.2	68.1	63.3	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	173	372	802
CNEL:	86	186	400	862

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: I-5 NB Off-Ramp to Nightmist

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,614	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.17	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.07	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.02	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.2	68.4	62.4	71.0	71.6
Medium Trucks:	64.8	64.2	57.8	56.3	64.7	64.9
Heavy Trucks:	65.2	64.7	55.6	56.9	65.2	65.4
Vehicle Noise:	73.0	72.0	69.0	64.2	72.8	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	153	329	709	1,528
CNEL:	164	354	762	1,642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Towngate to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,908 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,220 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.3	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	69.1	68.1	65.1	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	152	327	705
CNEL:	76	163	352	757

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Waterworks to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,153 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	691
CNEL:	74	160	344	742

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Irvine Boulevard to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,122 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	92	199	429
CNEL:	46	99	214	461

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,110	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.52	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.72	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.67	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.4	71.0
Medium Trucks:	64.2	63.5	57.1	55.6	64.1	64.3
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.3	71.4	68.3	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	138	298	642	1,383
CNEL:	149	320	689	1,485

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Alton Parkway to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,211 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.04	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.20	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.16	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	331	713
CNEL:	77	165	356	766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon/Shady Canyon
Road Segment: Quail Hill Parkway to I-405 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,790	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.12	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.12	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.07	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.9	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.1	70.2	67.1	62.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	686
CNEL:	74	159	342	737

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Scientific Way
Road Segment: Irvine Center Drive to Wald

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	124 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-9.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-27.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-31.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.1	51.1	49.3	43.2	51.9	52.5
Medium Trucks:	46.3	45.7	39.3	37.8	46.2	46.5
Heavy Trucks:	48.2	47.6	38.6	39.8	48.2	48.3
Vehicle Noise:	54.3	53.5	50.0	45.6	54.2	54.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	12	26	55
CNEL:	6	13	27	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Shady Canyon Drive
Road Segment: Culver Drive/Bonita Canyon Drive to Cloverfield

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	668 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.16	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.40	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.3	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	60.7	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	68.4	67.5	64.4	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	283
CNEL:	30	66	141	305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Shady Canyon Drive
Road Segment: Bommer Canyon Road to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	578 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.79	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-22.03	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.99	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.8	65.9	62.9	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Skyhawk
Road Segment: Great Park Boulevard to Marine Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-24.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-28.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	49.7	48.6	46.8	40.8	49.4	50.0
Medium Trucks:	44.5	43.8	37.5	35.9	44.4	44.6
Heavy Trucks:	47.7	47.1	38.1	39.4	47.7	47.8
Vehicle Noise:	52.6	51.7	47.8	43.9	52.4	52.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Southwood
Road Segment: Yale Avenue to Colt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	248 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.92	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.16	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.12	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.0	56.9	55.2	49.1	57.8	58.4
Medium Trucks:	52.2	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	54.1	53.5	44.5	45.7	54.1	54.2
Vehicle Noise:	60.2	59.4	55.9	51.5	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	40	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Southwood
Road Segment: Challenger to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	215 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.55	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.78	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.74	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.4	56.3	54.6	48.5	57.1	57.7
Medium Trucks:	51.6	50.9	44.6	43.0	51.5	51.7
Heavy Trucks:	53.5	52.9	43.8	45.1	53.4	53.6
Vehicle Noise:	59.6	58.7	55.3	50.9	59.4	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	34	74
CNEL:	8	17	37	79

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Spectrum Center Drive (Fortune
Road Segment: Pacifica to Quassar Drive (Spectrum)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	866 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-18.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-22.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	57.6	55.9	49.8	58.4	59.0
Medium Trucks:	53.2	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	55.7	55.1	46.0	47.3	55.6	55.8
Vehicle Noise:	61.2	60.3	56.7	52.5	61.0	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	34	73	158
CNEL:	17	36	78	168

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Spectrum Center Drive (Fortune
Road Segment: Quassar Drive (Spectrum) to Gatewayb

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	982 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.2	56.4	50.4	59.0	59.6
Medium Trucks:	53.7	53.1	46.7	45.2	53.6	53.8
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	61.7	60.9	57.2	53.1	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	171
CNEL:	18	39	85	183

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sunnyhill
Road Segment: Shady Canyon Drive to Turtle Rock Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	462 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-19.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-23.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.7	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	48.6	47.9	41.5	40.0	48.4	48.7
Heavy Trucks:	51.8	51.2	42.2	43.4	51.8	51.9
Vehicle Noise:	56.6	55.8	51.9	48.0	56.5	56.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	78
CNEL:	8	18	39	83

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Technology Drive
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,163 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.7	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.8	65.8	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	369
CNEL:	40	85	184	396

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Technology Drive
Job Number: 15937
Road Segment: Old Laguna Canyon Road to I-5/SR-133 Undercrossing

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	479 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.8	54.1	47.8	46.2	54.7	54.9
Heavy Trucks:	55.7	55.1	46.0	47.3	55.6	55.8
Vehicle Noise:	62.9	62.0	58.8	54.2	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	204
CNEL:	22	47	102	219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Technology Drive
Road Segment: I-5/SR-133 to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	437 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.6	57.8	51.8	60.4	61.0
Medium Trucks:	54.4	53.8	47.4	45.9	54.3	54.5
Heavy Trucks:	55.3	54.7	45.6	46.9	55.3	55.4
Vehicle Noise:	62.5	61.6	58.5	53.8	62.3	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	192
CNEL:	21	44	96	206

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Technology Drive
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-27.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-31.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.7	54.7	52.9	46.8	55.5	56.1
Medium Trucks:	49.5	48.8	42.5	40.9	49.4	49.6
Heavy Trucks:	50.3	49.7	40.7	42.0	50.3	50.4
Vehicle Noise:	57.6	56.7	53.5	48.8	57.4	57.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	45	97

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Toledo Way
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	627 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	65.2	64.3	61.3	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	291
CNEL:	31	67	145	313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Toledo Way
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	503 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.5	59.7	53.7	62.3	62.9
Medium Trucks:	56.1	55.5	49.1	47.6	56.0	56.2
Heavy Trucks:	56.5	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	64.3	63.3	60.3	55.5	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	251
CNEL:	27	58	125	270

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Toledo Way
Road Segment: Alton Parkway to Parker

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	437 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-6.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-23.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-27.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.5	54.9	48.5	46.9	55.4	55.6
Heavy Trucks:	55.9	55.4	46.3	47.6	55.9	56.0
Vehicle Noise:	63.7	62.7	59.7	54.9	63.5	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	229
CNEL:	25	53	114	246

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: Keystone to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,081 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.4	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.4	65.5	62.4	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	351
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: Jeffrey Road to Keystone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,081 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.4	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.4	65.5	62.4	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	351
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: Culver Drive to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: Monroe to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: I-5 NB Off-Ramp to Monroe

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: Yale Avenue to Remington

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	866 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.3
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	32	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: Remington to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	866	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.3
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	32	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Ridge Drive
Road Segment: Federation Way to Bonita Canyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-42.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-60.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-63.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	23.4	22.4	20.6	14.5	23.2	23.8
Medium Trucks:	17.2	16.5	10.2	8.6	17.1	17.3
Heavy Trucks:	18.0	17.4	8.4	9.7	18.0	18.1
Vehicle Noise:	25.3	24.4	21.2	16.5	25.1	25.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Rock Drive
Road Segment: Ridgeline to Willowleaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	578 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.34	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.57	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.53	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.5	57.9	51.5	49.9	58.4	58.6
Heavy Trucks:	59.4	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	66.6	65.7	62.5	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	100	216
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Rock Drive
Road Segment: Silkwood to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	594 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.21	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.45	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.41	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.7	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	24	51	110	236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Rock Drive
Road Segment: Canyon Park to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	553 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.53	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.76	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.72	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.2	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	66.4	65.5	62.3	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	210
CNEL:	22	48	104	225

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Rock Drive
Road Segment: Sunnyhill to Southernwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	289 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.35	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.58	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-28.54	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.5	54.8	48.5	46.9	55.4	55.6
Heavy Trucks:	56.3	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	63.6	62.7	59.5	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	29	63	136
CNEL:	15	31	68	146

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Rock Drive
Road Segment: Campus Drive to Hillgate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	553	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	55.4	54.8	48.4	46.9	55.3	55.6
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.5	62.6	59.5	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	225
CNEL:	24	52	112	241

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Rock Drive
Road Segment: Paseo Segovia to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	322 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.88	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.11	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-28.07	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.1	60.3	54.3	62.9	63.5
Medium Trucks:	56.9	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	57.8	57.2	48.1	49.4	57.7	57.9
Vehicle Noise:	65.0	64.1	60.9	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	180
CNEL:	19	42	90	193

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Golden Glow to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,921 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.8	63.1	56.7	55.2	63.7	63.9
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.9	71.0	67.9	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	377	811
CNEL:	87	188	405	872

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Ridgeline to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,869 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.47	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.77	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-17.73	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	208	447	964
CNEL:	104	223	481	1,036

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Culver Drive to Golden Glow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,846 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.1	63.5	54.4	55.7	64.1	64.2
Vehicle Noise:	71.8	70.9	67.8	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	370	798
CNEL:	86	185	398	857

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Yale Avenue to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,822 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.7	64.0	64.1
Vehicle Noise:	71.7	70.8	67.8	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	793
CNEL:	85	184	395	852

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,364 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.5	61.4	70.0	70.6
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.0	71.1	68.0	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	238	513	1,106
CNEL:	119	256	552	1,189

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Mesa to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,805 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.17	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.12	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.4	71.1	71.7
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	73.0	72.1	69.1	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	430	926
CNEL:	99	214	462	995

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,805 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.17	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.12	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.4	71.1	71.7
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	73.0	72.1	69.1	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	430	926
CNEL:	99	214	462	995

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: California Avenue to Mesa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,805 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.17	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.12	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.4	71.1	71.7
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	73.0	72.1	69.1	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	430	926
CNEL:	99	214	462	995

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,294 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	334	720
CNEL:	77	167	359	774

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,238 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.48	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-18.72	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-22.68	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	107	229	494
CNEL:	53	114	247	531

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,145 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	320	689
CNEL:	74	159	344	740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: San Joaquin to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,939 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	60.8	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.5	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	644
CNEL:	69	149	321	692

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Harvard Avenue to San Joaquin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,939 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	60.8	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.5	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	644
CNEL:	69	149	321	692

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Valley Oak Drive
Road Segment: Hawkcreek to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	355 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-6.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-24.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-28.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.6	53.9	47.6	46.0	54.5	54.7
Heavy Trucks:	55.0	54.4	45.4	46.7	55.0	55.1
Vehicle Noise:	62.7	61.8	58.8	54.0	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	92	199
CNEL:	21	46	99	214

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Valley Oak Drive
Road Segment: Irvine Center Drive to Oak Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	371 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-6.71	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-23.95	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-27.91	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.1	60.4	54.3	62.9	63.5
Medium Trucks:	56.8	56.1	49.7	48.2	56.7	56.9
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	64.9	64.0	60.9	56.1	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	222
CNEL:	24	51	110	238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Valley Oak Drive
Road Segment: Barranca Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	347 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-7.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-24.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-28.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	54.5	53.8	47.5	45.9	54.4	54.6
Heavy Trucks:	54.9	54.3	45.3	46.6	54.9	55.0
Vehicle Noise:	62.6	61.7	58.7	53.9	62.4	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	42	91	196
CNEL:	21	45	98	211

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Valley Oak Drive
Road Segment: Alton Parkway to Hawkcreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	421 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-6.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-23.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-27.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	55.4	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	55.8	55.2	46.1	47.4	55.8	55.9
Vehicle Noise:	63.5	62.6	59.5	54.7	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	223
CNEL:	24	52	111	240

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Marriott to Morse Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,807 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	57.9	66.6	67.2
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.4	60.8	51.8	53.1	61.4	61.5
Vehicle Noise:	68.7	67.8	64.6	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	107	230	495
CNEL:	53	114	246	531

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Michelson Drive to Quartz

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,757 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.50	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.1
Medium Trucks:	60.5	59.8	53.4	51.9	60.4	60.6
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.5	67.6	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	225	485
CNEL:	52	112	242	521

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,964 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.98	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	61.0	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.0	68.1	65.0	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	113	243	523
CNEL:	56	121	260	561

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,162 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.40	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.84	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	84.25	-19.80	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	60.1	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.2	67.3	64.1	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	273	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Main Street to Anchor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,906	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	68.9	68.0	64.8	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	238	512
CNEL:	55	118	255	550

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Anchor to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,906 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	68.9	68.0	64.8	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	238	512
CNEL:	55	118	255	550

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Morse to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,906 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	68.9	68.0	64.8	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	238	512
CNEL:	55	118	255	550

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Martin to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,403	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	418
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Campus Drive to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	418
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	418
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Jeffrey Road to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,782 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	227	490
CNEL:	53	113	244	526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Myford Road to Jamboree Road SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,683 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.2	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	472
CNEL:	51	109	235	506

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: The Mall Street to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,543	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.7	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.0	67.1	63.9	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	207	445
CNEL:	48	103	222	478

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Harvard Avenue to The Mall Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,543 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.7	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.0	67.1	63.9	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	207	445
CNEL:	48	103	222	478

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Franciscan Street to Ravenwood Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,469 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	67.8	66.9	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	431
CNEL:	46	100	214	462

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Ravenwood Street to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,469 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	67.8	66.9	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	431
CNEL:	46	100	214	462

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Culver Drive to Franciscan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,469 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	67.8	66.9	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	431
CNEL:	46	100	214	462

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Peters Canyon Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,675 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.4	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	66.7	65.8	62.6	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	490
CNEL:	53	113	244	526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Walnut Avenue
Job Number: 15937
Road Segment: Jamboree Road NB Off-Ramp to Peters Canyon Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,675	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.4	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	66.7	65.8	62.6	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	490
CNEL:	53	113	244	526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Yale Avenue to Kazan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	982 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	329
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Wisteria to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	982 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	329
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Warner Avenue
Road Segment: Jamboree Road SB Off-ramp to Construction North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,096 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.6	54.2	52.7	61.1	61.3
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.3	68.4	65.3	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	253	546
CNEL:	59	126	272	586

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Warner Avenue
Road Segment: Construction North to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,386 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.0
Medium Trucks:	59.4	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	414
CNEL:	44	96	206	445

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Warner Avenue
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Warner Avenue
Road Segment: Santa Ynez to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	751 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	56.8	56.1	49.7	48.2	56.7	56.9
Heavy Trucks:	57.6	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	64.9	63.9	60.8	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	59	128	275
CNEL:	30	64	137	295

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Warner Avenue
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	718 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	56.6	55.9	49.5	48.0	56.5	56.7
Heavy Trucks:	57.4	56.8	47.8	49.0	57.4	57.5
Vehicle Noise:	64.7	63.8	60.6	55.9	64.5	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	124	267
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Alton Parkway to Blue Lake North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	660 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	60.0	58.2	52.1	60.8	61.4
Medium Trucks:	55.0	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.0	62.1	58.9	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	208
CNEL:	22	48	104	223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Eagle Run to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	660 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	60.0	58.2	52.1	60.8	61.4
Medium Trucks:	55.0	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.0	62.1	58.9	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	208
CNEL:	22	48	104	223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Thunder Run to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	578 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	54.4	53.7	47.4	45.8	54.3	54.5
Heavy Trucks:	55.7	55.1	46.1	47.4	55.7	55.8
Vehicle Noise:	62.4	61.6	58.3	53.7	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	88	191
CNEL:	20	44	95	204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Main Street to Timber Run

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	578 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	54.4	53.7	47.4	45.8	54.3	54.5
Heavy Trucks:	55.7	55.1	46.1	47.4	55.7	55.8
Vehicle Noise:	62.4	61.6	58.3	53.7	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	88	191
CNEL:	20	44	95	204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Yale Avenue to Shorebird

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	53.5	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.8	54.3	45.2	46.5	54.8	54.9
Vehicle Noise:	61.6	60.7	57.4	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	83	178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Warner Avenue to Stonecreek South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	53.5	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.8	54.3	45.2	46.5	54.8	54.9
Vehicle Noise:	61.6	60.7	57.4	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	83	178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	454 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-22.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.4	58.3	56.6	50.5	59.1	59.7
Medium Trucks:	53.4	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	54.7	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	61.4	60.5	57.2	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	75	162
CNEL:	17	37	81	174

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Stonecreek North to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	53.5	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.8	54.3	45.2	46.5	54.8	54.9
Vehicle Noise:	61.6	60.7	57.4	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	83	178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Birdsong to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	53.5	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.8	54.3	45.2	46.5	54.8	54.9
Vehicle Noise:	61.6	60.7	57.4	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	83	178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Westwood
Road Segment: Yorktown to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	462 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.21	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-21.45	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-25.41	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.7	57.9	51.8	60.5	61.1
Medium Trucks:	55.0	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	62.9	62.1	58.6	54.2	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	27	57	124
CNEL:	13	28	61	132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Westwood
Road Segment: Bryan Avenue to Leaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	297 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.13	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.37	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.33	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.8	57.7	56.0	49.9	58.5	59.1
Medium Trucks:	53.0	52.4	46.0	44.5	52.9	53.1
Heavy Trucks:	54.9	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	61.0	60.1	56.7	52.3	60.9	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	92
CNEL:	10	21	46	98

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Deerfield Avenue to Winvale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	842 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.70	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.94	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.89	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	129	278
CNEL:	30	64	138	298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Hicks Canyon Drive to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	619 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.04	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.27	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.23	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	113	243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Walnut Avenue to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,122	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	40.0	feet
Centerline Dist. to Observer:	40.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.45	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.69	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-22.65	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.4	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	414
CNEL:	44	96	206	445

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,122 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.4	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	66.6	65.7	62.5	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	167	360
CNEL:	39	83	179	386

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,031 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	58.2	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.0	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	66.2	65.3	62.2	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	340
CNEL:	37	79	169	365

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: West Yale Loop to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	734 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.7	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	64.8	63.8	60.7	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	126	271
CNEL:	29	63	135	291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Winvale Avenue to Karen Ann Lane

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	842 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.3	56.6	50.2	48.7	57.2	57.4
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	65.3	64.4	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Karen Ann Lane to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	842 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.3	56.6	50.2	48.7	57.2	57.4
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	65.3	64.4	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Trabuco Road to Southwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	743 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.7	56.1	49.7	48.1	56.6	56.8
Heavy Trucks:	57.6	57.0	47.9	49.2	57.6	57.7
Vehicle Noise:	64.8	63.9	60.7	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	273
CNEL:	29	63	136	293

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Southwood to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	743 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.7	56.1	49.7	48.1	56.6	56.8
Heavy Trucks:	57.6	57.0	47.9	49.2	57.6	57.7
Vehicle Noise:	64.8	63.9	60.7	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	273
CNEL:	29	63	136	293

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Northwood to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	701 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	56.5	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.6	63.7	60.5	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	122	263
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	701 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	56.5	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.6	63.7	60.5	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	122	263
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Irvine Boulevard to Park Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	594 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	55.8	55.1	48.7	47.2	55.6	55.9
Heavy Trucks:	56.6	56.0	47.0	48.2	56.6	56.7
Vehicle Noise:	63.8	62.9	59.8	55.1	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	109	236
CNEL:	25	54	117	253

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: University Drive to Royce

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	91 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-12.37	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-29.61	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-33.57	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.7	53.0	46.9	55.5	56.1
Medium Trucks:	49.6	48.9	42.5	41.0	49.4	49.7
Heavy Trucks:	50.4	49.8	40.8	42.0	50.4	50.5
Vehicle Noise:	57.6	56.7	53.6	48.9	57.4	57.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	34	73
CNEL:	8	17	36	78

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Court
Road Segment: Arborwood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.45	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-19.69	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-23.65	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.9	55.9	54.1	48.0	56.7	57.3
Medium Trucks:	51.8	51.1	44.7	43.2	51.6	51.9
Heavy Trucks:	55.0	54.4	45.3	46.6	54.9	55.1
Vehicle Noise:	59.8	59.0	55.1	51.1	59.6	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	16	35	76
CNEL:	8	17	38	81

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Ada
Road Segment: Barranca Parway to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-59.51	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-63.47	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	24.9	23.8	22.0	16.0	24.6	25.2
Medium Trucks:	18.9	18.2	11.8	10.3	18.7	19.0
Heavy Trucks:	20.2	19.6	10.5	11.8	20.1	20.3
Vehicle Noise:	26.9	26.0	22.7	18.2	26.7	27.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Ada
Road Segment: Alton Parkway to Barranca PArkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,232 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,587 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.8	65.9	62.7	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	374
CNEL:	40	86	186	400

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Enterprise to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,884	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,693	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.4	71.0
Medium Trucks:	64.2	63.5	57.1	55.6	64.1	64.3
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.3	71.4	68.3	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	539	1,161
CNEL:	125	269	579	1,248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: I-5 NB Off-Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,594 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,999 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.58	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.66	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.61	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.2	68.5	62.4	71.0	71.6
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	73.0	72.1	69.0	64.2	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	265	570	1,228
CNEL:	132	284	613	1,320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,534 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,519 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.3	70.3	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	158	341	735
CNEL:	79	170	367	790

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Gateway Boulevard to Enterprise

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,234 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,907 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.6	68.3	68.9
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	392	844
CNEL:	91	195	421	907

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Jeffrey Road to Royal Oak

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,938 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	617
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Daimler Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,780 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,962 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.5	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	70.2	69.3	66.2	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,362 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,010 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.6	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	70.3	69.4	66.3	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	294	633
CNEL:	68	146	315	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,892 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,971 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.2	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	135	290	624
CNEL:	67	145	311	671

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,233 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.69	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.55	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.51	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.6	60.5	69.1	69.7
Medium Trucks:	63.0	62.3	55.9	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.1	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	919
CNEL:	99	213	458	987

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Creek Road to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,067 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,903 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	610
CNEL:	66	141	304	655

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Red Hill Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,216 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,750 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.7	68.8	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	268	577
CNEL:	62	134	288	620

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,890	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,888	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.7
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	607
CNEL:	65	140	303	652

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Telemetry to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,313 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,676 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	560
CNEL:	60	130	279	602

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Irvine Boulevard to Commercentre

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,324 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,244 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.4
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	421	908
CNEL:	98	210	453	975

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Jenner to Telemetry

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,661 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	557
CNEL:	60	129	278	598

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Irvine Center Drive to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,165 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,489 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.69	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.3	52.2	53.5	61.8	61.9
Vehicle Noise:	69.6	68.6	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	353	761
CNEL:	82	176	379	817

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Sand Canyon Avenue to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,781 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,034 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.41	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.83	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.78	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.6	68.8	62.8	71.4	72.0
Medium Trucks:	65.2	64.6	58.2	56.7	65.1	65.4
Heavy Trucks:	65.7	65.1	56.0	57.3	65.6	65.8
Vehicle Noise:	73.4	72.4	69.4	64.6	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	210	453	976
CNEL:	105	226	487	1,048

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Laguna Canyon Road to Jenner

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,926 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,644 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.1
Medium Trucks:	61.3	60.6	54.2	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	553
CNEL:	59	128	276	594

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Technology Drive East to Barranca Pkwy/Muirlands Blvd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,162 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,818 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	384	827
CNEL:	89	191	412	888

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Royal Oak to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,001 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	555
CNEL:	60	128	277	596

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,390 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,517 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.3	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.4
Vehicle Noise:	69.1	68.1	65.1	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	113	243	524
CNEL:	56	121	262	563

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Barranca Pkwy/Muirlands Blvd to Jeronimo Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,762	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,785	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	820
CNEL:	88	190	409	881

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Ada to Technology Drive East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,909	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,715	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	374	806
CNEL:	87	187	402	866

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,845 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,472 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	111	239	514
CNEL:	55	119	256	552

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Jeronimo Road to Hughes

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,838 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,544 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.65	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.59	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	772
CNEL:	83	179	385	829

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Hughes to Morgan
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,010	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,393	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.7	61.1	52.0	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.4	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	741
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Morgan to Toledo Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,745 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,041 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.7	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	309	667
CNEL:	72	154	332	716

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: San Marino to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,868	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,052	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	60.6	59.9	53.5	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	669
CNEL:	72	155	334	719

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,978 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,896 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.83	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	60.7	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	68.4	67.5	64.4	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	137	295	635
CNEL:	68	147	316	682

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Hospital to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,303 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,840 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.24	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.00	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.95	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.2	69.8
Medium Trucks:	63.1	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.2	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	324	699
CNEL:	75	162	349	751

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,026 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,817 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.19	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.05	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.01	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.1	63.4	63.5
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	322	693
CNEL:	74	160	346	745

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Murphy Avenue to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,029 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,817 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.01	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.1	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	68.2	67.3	64.2	59.4	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	617
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Foster to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,872 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,052 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	60.6	59.9	53.5	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	669
CNEL:	72	155	334	719

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Fairbanks to Foster

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,257 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,919 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.42	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.82	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	640
CNEL:	69	148	319	687

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Toledo Way to Bertea

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,840 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	613
CNEL:	66	142	306	659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Pacifica to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,738	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,546	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.52	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.76	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.71	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Bertea to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,315 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,758 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Meridian to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,783	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,467	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.94	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.5	59.0	59.2
Heavy Trucks:	59.5	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.3	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	248	535
CNEL:	57	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Paseo Westpark to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,914 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,643 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	268	577
CNEL:	62	134	288	620

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,294 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,344 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.2	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	66.9	66.0	62.9	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	505
CNEL:	54	117	252	542

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Astor
Road Segment: Lynx to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,138 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,579 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.79	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-15.44	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-19.40	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.3	55.3	63.9	64.5
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	61.2	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	66.7	65.8	62.2	58.0	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	23	50	109	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Astor
Road Segment: Cadence to Lynx
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,633	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,290	vehicles
Vehicle Speed:	30	mph
Near/Far Lane Distance:	12	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	37.5	feet
Centerline Dist. to Observer:	37.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.91	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-16.32	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-20.28	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.2	60.5	54.4	63.0	63.6
Medium Trucks:	57.8	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	65.8	64.9	61.3	57.1	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	192
CNEL:	20	44	95	204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: I-5 NB Off-Ramp to Rockfield Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	91,457	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	7,545	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.37	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-10.87	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-14.83	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.5	73.4	71.6	65.6	74.2	74.8
Medium Trucks:	68.0	67.4	61.0	59.4	67.9	68.1
Heavy Trucks:	68.4	67.9	58.8	60.1	68.4	68.6
Vehicle Noise:	76.2	75.2	72.2	67.4	76.0	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	250	538	1,159	2,496
CNEL:	268	578	1,245	2,682

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Muirlands Boulevard to Jeronimo Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,885 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,023 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.1	62.0	70.6	71.3
Medium Trucks:	64.5	63.8	57.4	55.9	64.4	64.6
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	72.6	71.7	68.6	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	262	564	1,215
CNEL:	131	281	606	1,305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Rockfield Boulevard to Muirlands Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,745	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,506	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.00	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.24	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.19	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	66.7	66.0	59.6	58.1	66.5	66.8
Heavy Trucks:	67.1	66.5	57.5	58.7	67.1	67.2
Vehicle Noise:	74.8	73.9	70.8	66.0	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	436	939	2,023
CNEL:	217	468	1,009	2,174

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Jeronimo Road to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,574 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,090 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	63.6	62.9	56.5	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.7	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	228	492	1,059
CNEL:	114	245	528	1,138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Toledo Way to Cromwell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,682 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,769 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.6	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.7
Vehicle Noise:	71.4	70.4	67.4	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	466	1,003
CNEL:	108	232	500	1,078

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Cromwell to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,725 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,772 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.36	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.6	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.4	70.4	67.4	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	466	1,004
CNEL:	108	232	501	1,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Research Drive to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,918 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,221 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.3	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	69.1	68.1	65.1	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	152	327	705
CNEL:	76	163	352	758

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Irvine Center Drive to Research Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,085 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	750 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-20.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-24.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.6	59.8	53.8	62.4	63.0
Medium Trucks:	56.2	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	56.6	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	64.3	63.4	60.4	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Lake Forest Drive to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,286 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	519 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-22.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-26.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.6	53.9	47.6	46.0	54.5	54.7
Heavy Trucks:	55.0	54.4	45.4	46.7	55.0	55.1
Vehicle Noise:	62.7	61.8	58.8	54.0	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	124	267
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Banting
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,452 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	367 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-22.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-26.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.8	55.8	54.0	48.0	56.6	57.2
Medium Trucks:	51.1	50.4	44.0	42.5	50.9	51.2
Heavy Trucks:	52.9	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	59.1	58.2	54.8	50.4	58.9	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	53	114
CNEL:	12	26	56	121

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Pacifica to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,831 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,049 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	752
CNEL:	81	174	375	809

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,806	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,129	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.6	70.6	67.7	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	771
CNEL:	83	179	385	830

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: I-5 HOV Ramp to Technology Drive West

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,598 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,699 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.4	61.9	52.8	54.1	62.4	62.5
Vehicle Noise:	70.6	69.7	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	664
CNEL:	71	154	331	714

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,955	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.7	69.4	70.0
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.0	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	71.2	70.3	67.3	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	729
CNEL:	78	169	364	784

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Irvine Center Drive to I-5 HOV Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,207 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,667 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.3	61.7	55.3	53.7	62.2	62.4
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	141	304	655
CNEL:	70	152	327	705

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,201 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.6
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	848

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,229 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,081 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.1	61.0	69.6	70.2
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.5	70.5	67.6	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	353	760
CNEL:	82	176	379	817

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,103 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.4
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	355	765
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Ada to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,456 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,348 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.4	67.6	61.5	70.2	70.8
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	63.8	63.3	54.2	55.5	63.8	63.9
Vehicle Noise:	72.0	71.1	68.1	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	823
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,501 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,939 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	55.9	54.4	62.9	63.1
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	71.2	70.2	67.3	62.4	71.0	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	156	336	725
CNEL:	78	168	362	780

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Red Hill Avenue to Armstrong Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,978	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,711	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.87	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.37	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.32	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	65.9	65.3	58.9	57.4	65.8	66.0
Heavy Trucks:	66.0	65.4	56.3	57.6	65.9	66.1
Vehicle Noise:	74.1	73.2	70.2	65.4	73.9	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	183	393	847	1,825
CNEL:	196	423	911	1,963

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Discovery/Herchel to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,685 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,789 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.6	62.0	55.6	54.1	62.5	62.7
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	687
CNEL:	74	159	343	739

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Lyon to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,895 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,806 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	691
CNEL:	74	160	345	744

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Creek Road to Lyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,564 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,779 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	318	684
CNEL:	74	159	342	736

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,982 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,216 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.25	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.99	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.94	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	63.9	63.3	56.9	55.4	63.8	64.0
Heavy Trucks:	64.0	63.4	54.3	55.6	63.9	64.1
Vehicle Noise:	72.1	71.2	68.2	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	231	499	1,074
CNEL:	116	249	536	1,156

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Barranca Parkway
Job Number: 15937
Road Segment: Sand Canyon Avenue to Laguna Canyon Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,260 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,589 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	137	295	635
CNEL:	68	147	317	683

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Armstrong Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,440 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,006 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.96	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.28	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.24	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	221	477	1,027
CNEL:	110	238	513	1,105

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,496 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,526 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.3	53.6	62.0	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	618
CNEL:	66	143	308	665

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Jamboree Road to Construction Circle

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,403 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.4	69.5	66.6	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	872
CNEL:	94	202	436	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Santa Rosa to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,283 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,333 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.2
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	855
CNEL:	92	198	427	920

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: FedEx to Discovery/Herchel

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,244 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,258 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.1
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.1	60.5	51.5	52.8	61.1	61.2
Vehicle Noise:	69.3	68.4	65.4	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	543
CNEL:	58	126	271	584

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Jeffrey Road to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,857 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,308 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.3	60.6	54.2	52.7	61.2	61.4
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.5	68.5	65.6	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	558
CNEL:	60	129	278	600

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Laguna Canyon Road to FedEx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,848	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,225	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	69.2	68.2	65.3	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	248	534
CNEL:	57	124	266	574

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Pullman Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,153 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,983 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.92	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-15.31	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-19.27	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.8	62.7	71.3	71.9
Medium Trucks:	65.0	64.3	58.0	56.4	64.9	65.1
Heavy Trucks:	65.0	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	73.2	72.2	69.3	64.4	73.0	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	158	340	732	1,578
CNEL:	170	366	788	1,697

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Construction Circle to Fire Station

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,175 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,077 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	367	791
CNEL:	85	183	395	851

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Fire Station to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,175 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,077 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	367	791
CNEL:	85	183	395	851

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Paseo Westpark to Santa Rosa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,294 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,087 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.8	68.9	66.0	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	794
CNEL:	85	184	396	854

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,911 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.5	68.5	65.6	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	749
CNEL:	81	173	374	805

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bay Tree
Road Segment: Trabuco Road to Roosevelt
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,723 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	225 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.7	53.6	51.9	45.8	54.4	55.1
Medium Trucks:	48.9	48.3	41.9	40.3	48.8	49.0
Heavy Trucks:	50.8	50.2	41.2	42.4	50.8	50.9
Vehicle Noise:	56.9	56.1	52.6	48.2	56.8	57.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	41	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Beacon
Road Segment: Ridge Valley to Benchmark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,119 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	257 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-6.09	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-23.32	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-27.28	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.3	55.2	53.5	47.4	56.0	56.6
Medium Trucks:	50.8	50.1	43.8	42.2	50.7	50.9
Heavy Trucks:	53.3	52.7	43.7	44.9	53.3	53.4
Vehicle Noise:	58.8	57.9	54.3	50.1	58.6	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	14	30	66
CNEL:	7	15	32	70

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Benchmark (LN Street)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,829 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	151 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.40	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.64	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.60	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	52.9	51.2	45.1	53.7	54.3
Medium Trucks:	48.5	47.8	41.5	39.9	48.4	48.6
Heavy Trucks:	51.0	50.4	41.3	42.6	50.9	51.1
Vehicle Noise:	56.5	55.6	52.0	47.8	56.3	56.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	21	46
CNEL:	5	11	23	49

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bison Avenue
Road Segment: SR-73 NB Off-Ramp to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,221 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,163 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.7	67.4	68.0
Medium Trucks:	61.4	60.7	54.3	52.8	61.3	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	558
CNEL:	60	129	278	598

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bonita Canyon Drive
Road Segment: MacArthur Boulevard to SR-73

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,318 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,501 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.57	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.67	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-19.62	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	335	721
CNEL:	77	167	359	774

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bonita Canyon Drive
Road Segment: Turtle Ridge to Shady Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,645	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,703	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.10	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.33	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.29	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.6	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.3	67.4	64.3	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	558
CNEL:	60	129	278	599

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bonita Canyon Drive
Road Segment: Newport Coast Drive to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,987 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,566 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.46	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.70	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.65	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	65.9	66.6
Medium Trucks:	59.8	59.1	52.7	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	63.9	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	528
CNEL:	57	122	263	567

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bonita Canyon Drive
Road Segment: SR-73 NB Off-Ramp to Newport Coast Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,778	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,467	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.75	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.98	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.94	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.6	66.7	63.7	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	505
CNEL:	54	117	252	542

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bosque
Road Segment: Cadence to Great Park Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,850 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	978 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.29	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-17.53	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-21.48	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.0	59.3	53.2	61.8	62.4
Medium Trucks:	56.6	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	64.6	63.7	60.1	55.9	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	34	74	160
CNEL:	17	37	79	170

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bosque
Road Segment: Irvine Boulevard to Benchmark (LN Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,686 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	634 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-2.17	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.41	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.36	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.2	57.4	51.3	60.0	60.6
Medium Trucks:	54.7	54.1	47.7	46.1	54.6	54.8
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	62.7	61.9	58.2	54.0	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	55	120
CNEL:	13	27	59	127

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bosque
Road Segment: Benchmark to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,750 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	639 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-2.13	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.37	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.33	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.4	51.4	60.0	60.6
Medium Trucks:	54.8	54.1	47.7	46.2	54.6	54.9
Heavy Trucks:	57.2	56.6	47.6	48.9	57.2	57.3
Vehicle Noise:	62.8	61.9	58.3	54.1	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	120
CNEL:	13	28	59	128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bosque
Road Segment: Great Park Boulevard to Beacon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,880 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	155 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.28	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.52	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.48	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.1	53.0	51.3	45.2	53.8	54.4
Medium Trucks:	48.6	47.9	41.6	40.0	48.5	48.7
Heavy Trucks:	51.1	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	56.6	55.7	52.1	47.9	56.4	56.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	22	47
CNEL:	5	11	23	50

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bosque
Road Segment: Beacon to S 5th Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,524 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	126 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-9.20	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-26.43	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-30.39	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.2	52.1	50.4	44.3	52.9	53.5
Medium Trucks:	47.7	47.0	40.7	39.1	47.6	47.8
Heavy Trucks:	50.2	49.6	40.5	41.8	50.1	50.3
Vehicle Noise:	55.7	54.8	51.2	47.0	55.5	55.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	41
CNEL:	4	9	20	43

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Jamboree Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,684 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,789 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	491
CNEL:	53	114	245	527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Market Place to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,735	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,793	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	492
CNEL:	53	114	245	528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Rubicon to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,735 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,793 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	492
CNEL:	53	114	245	528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: El Camino Real to Rubicon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,735 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,793 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	492
CNEL:	53	114	245	528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Eastwood to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,981 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Westwood to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,001 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Culver Drive to Westwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,292 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,014 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.3	61.5	55.4	64.1	64.7
Medium Trucks:	58.1	57.4	51.0	49.5	58.0	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.2	65.3	62.1	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	156	337
CNEL:	36	78	168	361

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Yale Avenue to Eastwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	918 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Cadence
Road Segment: Pusan to Chinon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,989 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	412 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.29	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.53	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.49	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	55.8	55.2	48.8	47.3	55.7	55.9
Heavy Trucks:	57.1	56.6	47.5	48.8	57.1	57.2
Vehicle Noise:	63.9	63.0	59.7	55.1	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	31	66	142
CNEL:	15	33	71	152

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Cadence
Road Segment: Bosque to Pusan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,049 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	417 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.44	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	63.9	63.0	59.7	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	31	66	143
CNEL:	15	33	71	153

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Cadence
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,822 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	398 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.44	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.68	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.64	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	139
CNEL:	15	32	69	149

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Cadence
Road Segment: Chinon to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,575 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	130 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-10.30	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-27.54	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-31.50	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.8	55.8	54.0	48.0	56.6	57.2
Medium Trucks:	50.8	50.2	43.8	42.2	50.7	50.9
Heavy Trucks:	52.1	51.5	42.5	43.8	52.1	52.2
Vehicle Noise:	58.9	58.0	54.7	50.1	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	14	31	66
CNEL:	7	15	33	70

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Cadence
Road Segment: Merit to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,397 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	115 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-10.82	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-28.06	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-32.02	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.3	55.3	53.5	47.4	56.1	56.7
Medium Trucks:	50.3	49.6	43.3	41.7	50.2	50.4
Heavy Trucks:	51.6	51.0	42.0	43.2	51.6	51.7
Vehicle Noise:	58.3	57.4	54.2	49.6	58.1	58.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	28	61
CNEL:	7	14	30	65

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: California Avenue
Road Segment: University Drive to Academy Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,529 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,281 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.9	57.2	50.8	49.3	57.8	58.0
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	65.9	65.0	61.7	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: California Avenue
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,756 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	805 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.9	55.2	48.8	47.3	55.7	56.0
Heavy Trucks:	57.2	56.6	47.5	48.8	57.2	57.3
Vehicle Noise:	63.9	63.0	59.7	55.2	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	238
CNEL:	25	55	118	255

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: California Avenue
Road Segment: Theory to Bison Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,438 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	779 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.7	57.0	57.1
Vehicle Noise:	63.7	62.9	59.6	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Carlson Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,465 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.14	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-16.09	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-20.05	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.6	64.0	57.6	56.0	64.5	64.7
Heavy Trucks:	65.0	64.4	55.4	56.7	65.0	65.1
Vehicle Noise:	72.8	71.8	68.8	64.0	72.6	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	740
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: University Drive to Bridge Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,499 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,599 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.3	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.4	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	348	751
CNEL:	81	174	374	807

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Jamboree Road to Carlson Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,851 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,380 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.9	62.2	55.8	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.0	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	329	708
CNEL:	76	164	353	761

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Stanford Court to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,338	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,255	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.6	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	70.8	69.9	66.8	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	317	683
CNEL:	73	158	341	734

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: California Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,438 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,181 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.98	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	668
CNEL:	72	155	333	718

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Berkeley Avenue to Cornell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,044 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,736 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	124	266	574
CNEL:	62	133	286	616

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Martin to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,957 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,316 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.4	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	477
CNEL:	51	110	238	513

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Campus Drive
Job Number: 15937
Road Segment: Culver Drive to Paseo Montoya (Turtle Rock Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,713 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,296 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	60.7	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	68.4	67.5	64.4	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	472
CNEL:	51	109	235	507

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Von Karman Avenue to Teller Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,785 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,137 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.3	57.2	65.8	66.5
Medium Trucks:	59.7	59.0	52.6	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	201	433
CNEL:	46	100	216	465

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: MacArthur Boulevard to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,788 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,137 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.3	57.2	65.8	66.5
Medium Trucks:	59.7	59.0	52.6	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	201	433
CNEL:	46	100	216	465

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Teller Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,365 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	938 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.2	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	67.0	66.0	63.0	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	380
CNEL:	41	88	190	409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Carlson Avenue
Road Segment: Michelson Drive to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,044 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,076 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.0	57.0	65.6	66.2
Medium Trucks:	59.4	58.8	52.4	50.9	59.3	59.5
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.6	66.6	63.6	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	417
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Chinon
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,025 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	332 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.19	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-21.42	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-25.38	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.2	54.1	52.4	46.3	54.9	55.5
Medium Trucks:	50.0	49.4	43.0	41.4	49.9	50.1
Heavy Trucks:	53.2	52.6	43.6	44.9	53.2	53.3
Vehicle Noise:	58.1	57.2	53.3	49.4	57.9	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	27	59
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Creek Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,622 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	381 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-20.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-24.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.9	51.8	50.1	44.0	52.6	53.2
Medium Trucks:	47.7	47.1	40.7	39.2	47.6	47.8
Heavy Trucks:	50.9	50.4	41.3	42.6	50.9	51.1
Vehicle Noise:	55.8	54.9	51.0	47.1	55.6	56.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	73

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,147 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,797 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.9	70.8	69.0	63.0	71.6	72.2
Medium Trucks:	65.3	64.6	58.2	56.7	65.1	65.4
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	73.4	72.5	69.6	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	138	298	642	1,383
CNEL:	149	320	690	1,488

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,031 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,953 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.4
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.1	65.4	65.5
Vehicle Noise:	73.6	72.7	69.7	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	656	1,412
CNEL:	152	327	705	1,520

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,989 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.4	64.8	58.4	56.9	65.3	65.5
Heavy Trucks:	65.5	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.6	72.7	69.7	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	306	659	1,419
CNEL:	153	329	709	1,527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Scottsdale Drive to I-5 SB Off- Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,976 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.1	71.8	72.4
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.5	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.6	72.7	69.7	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	305	658	1,417
CNEL:	152	328	707	1,524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: I-405 NB Off-Ramp to San Leandro

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,001 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,703 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.90	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	69.0	62.9	71.5	72.1
Medium Trucks:	65.2	64.5	58.1	56.6	65.1	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.4	72.4	69.5	64.6	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	294	633	1,364
CNEL:	147	316	681	1,468

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: San Leandro to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,202	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,389	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	281	605	1,303
CNEL:	140	302	651	1,402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Harvard Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,683	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,346	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.8	64.2	57.8	56.3	64.7	64.9
Heavy Trucks:	64.9	64.3	55.2	56.5	64.8	65.0
Vehicle Noise:	73.0	72.1	69.1	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	129	279	601	1,295
CNEL:	139	300	646	1,393

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Trabuco Road to Farwell Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,294 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,057 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.22	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.02	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.98	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.9
Medium Trucks:	65.9	65.2	58.9	57.3	65.8	66.0
Heavy Trucks:	65.9	65.3	56.3	57.6	65.9	66.0
Vehicle Noise:	74.1	73.2	70.2	65.3	73.9	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	145	313	674	1,453
CNEL:	156	337	725	1,563

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,629 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,259 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.9
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.9	72.0	69.1	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	275	593	1,277
CNEL:	137	296	638	1,374

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Main Street to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,144 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,137 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.1	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	270	581	1,253
CNEL:	135	290	626	1,348

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Warner Avenue to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,921 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,036 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.2	70.9	71.5
Medium Trucks:	64.5	63.8	57.5	55.9	64.4	64.6
Heavy Trucks:	64.5	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.7	71.8	68.8	63.9	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	265	572	1,232
CNEL:	133	286	615	1,326

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Walnut Avenue to Scottsdale Dive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,508 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,002 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.3	62.2	70.8	71.4
Medium Trucks:	64.5	63.8	57.4	55.9	64.4	64.6
Heavy Trucks:	64.5	63.9	54.9	56.1	64.5	64.6
Vehicle Noise:	72.7	71.7	68.8	63.9	72.5	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	264	569	1,225
CNEL:	132	284	612	1,318

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,184 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,893 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.08	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.16	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.3	55.8	64.2	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.5	71.6	68.7	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	120	259	558	1,203
CNEL:	129	279	601	1,294

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Shady Canyon Drive to Palo Verde

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,206 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,245 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.8	70.9	67.9	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	371	799
CNEL:	86	185	399	860

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Deerfield Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,819 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,698 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.1	63.5	57.1	55.6	64.0	64.2
Heavy Trucks:	64.2	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	540	1,162
CNEL:	125	269	580	1,251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Sandburg Way to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,901 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,622 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.0	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.4	55.7	64.1	64.2
Vehicle Noise:	72.2	71.3	68.3	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	247	532	1,146
CNEL:	123	266	572	1,233

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,101 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,556 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.0	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.1	71.2	68.3	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	526	1,133
CNEL:	122	262	566	1,218

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Palo Verde to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,255 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,001 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	344	740
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: University Drive to Sandburg Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,605	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,350	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.5	61.4	70.0	70.7
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	63.7	63.1	54.1	55.4	63.7	63.8
Vehicle Noise:	71.9	71.0	68.0	63.1	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	234	505	1,088
CNEL:	117	252	543	1,171

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Farwell Avenue to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,503 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,919 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.11	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.13	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.08	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.3	68.6	62.5	71.1	71.7
Medium Trucks:	64.8	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	64.8	64.2	55.2	56.5	64.8	64.9
Vehicle Noise:	73.0	72.1	69.1	64.2	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	264	569	1,226
CNEL:	132	284	612	1,319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Campus Drive to High School

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,178	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,315	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	68.0	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	502	1,081
CNEL:	116	250	540	1,163

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: High School to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,525	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,261	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.5	55.0	63.5	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.8	70.8	67.9	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	496	1,069
CNEL:	115	248	534	1,150

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Bryan Avenue to Florence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,270	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,075	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.3	62.7	56.3	54.7	63.2	63.4
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	221	477	1,028
CNEL:	111	238	513	1,106

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Portola Parkway to Settlers

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,591 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,781 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	148	318	685
CNEL:	74	159	342	737

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Florence to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,440 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,006 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	470	1,013
CNEL:	109	235	506	1,089

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Irvine Boulevard to Viewpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,912	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,303	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	848
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Viewpark to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,661 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,282 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.76	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.1
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	391	843
CNEL:	91	195	421	906

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Settlers to Furrow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,425	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	943	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	59.8	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	68.0	67.1	64.2	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	208	448
CNEL:	48	104	224	482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Meadowood to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,435 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,603 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.5
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	143	309	666
CNEL:	72	154	333	716

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Discovery Drive
Road Segment: Irvine Center Drive to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,932 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	737 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.5	60.4	58.7	52.6	61.2	61.8
Medium Trucks:	55.5	54.8	48.4	46.9	55.4	55.6
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	63.5	62.6	59.3	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	224
CNEL:	24	52	111	240

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Discovery Drive
Road Segment: Waterworks Way to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,423 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	365 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-23.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-27.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.4	57.4	55.6	49.6	58.2	58.8
Medium Trucks:	52.4	51.7	45.4	43.8	52.3	52.5
Heavy Trucks:	53.7	53.1	44.1	45.4	53.7	53.8
Vehicle Noise:	60.5	59.6	56.3	51.7	60.3	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	70	150

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: East Yale Loop
Road Segment: Alton Parkway to Witherspoon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,625 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,042 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.0	56.3	49.9	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.8	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	282
CNEL:	30	65	140	302

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: East Yale Loop
Road Segment: Osborn Street to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,855 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	978 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	56.7	56.0	49.7	48.1	56.6	56.8
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	64.7	63.8	60.6	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	126	271
CNEL:	29	62	135	290

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: East Yale Loop
Road Segment: Yale Avenue to Springbrook South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,084 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	832 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	61.0	59.2	53.1	61.8	62.4
Medium Trucks:	56.0	55.3	49.0	47.4	55.9	56.1
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.0	63.1	59.9	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	260

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: East Yale Loop
Road Segment: Springbrook North to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,140 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	672 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.3	52.2	60.8	61.4
Medium Trucks:	55.1	54.4	48.0	46.5	55.0	55.2
Heavy Trucks:	56.4	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	63.1	62.2	58.9	54.4	62.9	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	98	211
CNEL:	23	49	105	226

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: East Yale Loop
Road Segment: Woodspring to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,731 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	555 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.4	51.4	60.0	60.6
Medium Trucks:	54.2	53.6	47.2	45.7	54.1	54.4
Heavy Trucks:	55.6	55.0	45.9	47.2	55.5	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	186
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: East Yale Loop
Road Segment: Barranca Parkway to Eastshore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,747 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	557 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.98	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.5	51.4	60.0	60.6
Medium Trucks:	54.3	53.6	47.2	45.7	54.1	54.4
Heavy Trucks:	55.6	55.0	45.9	47.2	55.6	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	186
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Eastwood
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,973 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	245 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.96	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.20	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.16	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.0	56.9	55.1	49.1	57.7	58.3
Medium Trucks:	52.2	51.5	45.2	43.6	52.1	52.3
Heavy Trucks:	54.0	53.5	44.4	45.7	54.0	54.2
Vehicle Noise:	60.2	59.3	55.9	51.5	60.0	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	38	81
CNEL:	9	19	40	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Eastwood
Road Segment: Columbus to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,023 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	167 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.64	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-25.87	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-29.83	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.3	55.2	53.5	47.4	56.0	56.6
Medium Trucks:	50.5	49.9	43.5	41.9	50.4	50.6
Heavy Trucks:	52.4	51.8	42.7	44.0	52.4	52.5
Vehicle Noise:	58.5	57.6	54.2	49.8	58.3	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	29	63
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: El Camino Real
Road Segment: Jamboree Road to Alliance (SR-261 Bridge)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,775 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,549 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	66.7	65.8	62.6	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	368
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: El Camino Real North
Road Segment: El Camino Real to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,510 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	537 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	54.1	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	58.0	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	182
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Fairbanks
Road Segment: Alton Parkway to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,025 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,487 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.28	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-16.95	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-20.91	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.4	68.5	65.3	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Fairbanks
Road Segment: Irvine Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,256 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	764 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.61	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.85	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.80	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	66.5	65.6	62.4	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	100	214
CNEL:	23	49	107	230

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Fairchild Road
Road Segment: MacArthur Boulevard to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,074 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	584 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	55.7	55.0	48.6	47.1	55.6	55.8
Heavy Trucks:	56.5	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Gateway Boulevard
Road Segment: Alton Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,311 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,181 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-16.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-20.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.5	53.9	47.5	46.0	54.4	54.6
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	62.5	61.7	58.0	53.9	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	194
CNEL:	21	44	96	206

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Gateway Boulevard
Job Number: 15937
Road Segment: Spectrum Center Drive (Fortune Drive) to Alton Parkway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,892 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	899 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.9	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	53.3	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	55.8	55.2	46.2	47.5	55.8	55.9
Vehicle Noise:	61.4	60.5	56.9	52.7	61.2	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	75	162
CNEL:	17	37	80	172

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Gateway Boulevard
Road Segment: Irvine Center Drive to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	426 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-3.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-21.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-25.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.6	54.5	52.8	46.7	55.3	55.9
Medium Trucks:	50.1	49.4	43.1	41.5	50.0	50.2
Heavy Trucks:	52.6	52.0	43.0	44.2	52.6	52.7
Vehicle Noise:	58.1	57.2	53.6	49.4	57.9	58.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	46	98
CNEL:	10	23	49	105

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Great Park Boulevard
Road Segment: Sand Canyon to Ridge Valley

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,232 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,402 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.91	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.33	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.29	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.2	71.1	69.3	63.3	71.9	72.5
Medium Trucks:	65.7	65.1	58.7	57.2	65.6	65.9
Heavy Trucks:	66.1	65.6	56.5	57.8	66.1	66.3
Vehicle Noise:	73.9	72.9	69.9	65.1	73.7	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	227	489	1,053
CNEL:	113	244	525	1,131

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Great Park Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,670 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	559
CNEL:	60	129	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Great Park Boulevard (EB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,039 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	581 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.77	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-22.01	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.96	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.0	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.8	66.8	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	258
CNEL:	28	60	129	277

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Great Park Boulevard (WB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,351 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	524 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.22	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-22.45	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-26.41	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.7	65.4	66.0
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	67.3	66.4	63.4	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: University Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,732 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,793 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.58	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-16.65	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-20.61	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.4	62.8	56.4	54.9	63.3	63.6
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	71.5	70.6	67.5	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	459
CNEL:	49	106	229	493

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Michelson Drive to Coronado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,408 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	599
CNEL:	64	138	298	643

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: San Marino to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,906 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,302 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.7	68.8	65.7	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	581
CNEL:	62	134	289	624

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Coronado to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,017 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,311 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.7	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.7	68.8	65.7	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	583
CNEL:	63	135	290	625

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: San Carlo to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,164 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,241 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	52.9	61.4	61.6
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	69.6	68.7	65.5	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	265	571
CNEL:	61	132	284	612

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Main Street to San Carlo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,657 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,199 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.4	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.5	68.6	65.5	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	262	564
CNEL:	60	130	281	605

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Alton Parkway to San Leon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	239	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: San Juan to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,509 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,692 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	220	473
CNEL:	51	109	236	508

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: San Leon to San Juan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,160	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,663	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.1	60.5	51.4	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,559 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,284 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.5	65.1	65.7
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	67.2	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	394
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Deerfield Avenue to Poplar Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,473	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,277	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.2	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	182	392
CNEL:	42	91	195	421

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,409 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	419
CNEL:	45	97	209	449

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Bridge Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,962 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,317 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.3	66.4	63.2	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	186	401
CNEL:	43	93	199	430

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Paseo Westpark to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,630	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,372	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	60.2	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	67.5	66.6	63.4	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	191	412
CNEL:	44	95	205	442

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Poplar Street to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,344 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,101 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.53	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-18.77	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-22.73	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.5	67.6	64.4	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	412

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: California Avenue to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,155 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	367
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Culver Drive to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,746 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,134 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.2
Medium Trucks:	58.6	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.6	65.7	62.6	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	363
CNEL:	39	84	181	389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Berkeley to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,010 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,156 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.7	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	367
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Warner Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,106 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	357
CNEL:	38	82	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Hicks Canyon Drive
Road Segment: Delamesa to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	191 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.06	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	75.75	-25.30	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	81.57	-29.25	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	54.9	53.1	47.1	55.7	56.3
Medium Trucks:	50.2	49.5	43.1	41.6	50.1	50.3
Heavy Trucks:	52.0	51.4	42.4	43.6	52.0	52.1
Vehicle Noise:	58.2	57.3	53.9	49.5	58.0	58.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Hornet (5th St)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,316 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	274 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-5.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-22.27	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-26.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.3	53.3	51.5	45.5	54.1	54.7
Medium Trucks:	49.2	48.5	42.1	40.6	49.1	49.3
Heavy Trucks:	52.4	51.8	42.8	44.0	52.4	52.5
Vehicle Noise:	57.2	56.4	52.5	48.6	57.1	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	52
CNEL:	5	12	25	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Hubble
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,224 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	183 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.76	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.00	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.96	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.6	51.5	49.8	43.7	52.3	52.9
Medium Trucks:	47.4	46.8	40.4	38.9	47.3	47.6
Heavy Trucks:	50.7	50.1	41.0	42.3	50.6	50.8
Vehicle Noise:	55.5	54.7	50.7	46.8	55.3	55.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	18	39
CNEL:	4	9	19	42

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: SR-133 NB Off- Ramp to Ridge Valley (O Street)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,105 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,474 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	72.0	71.1	68.2	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	240	518	1,115
CNEL:	120	258	557	1,200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: SR-133 SB Off-Ramp to SR-133 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,055 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,387 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.9	71.0	68.1	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	236	509	1,096
CNEL:	118	254	547	1,179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Sand Canyon to SR-133 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,768 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.94	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.30	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.26	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.1	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	257	554	1,194
CNEL:	128	277	596	1,285

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Merit to Alton

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.3	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,001
CNEL:	108	232	500	1,077

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Journey to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,910	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,963	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.4	70.4	67.5	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,003
CNEL:	108	232	501	1,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,235 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,659 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.4	62.7	62.8
Vehicle Noise:	70.9	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	433	933
CNEL:	100	216	466	1,004

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Pusan Way to Chinon (B Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,080 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Palo Lado to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,118 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,320 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.83	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.2
Vehicle Noise:	70.3	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	395	852
CNEL:	92	197	425	916

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Culver Drive to Palo Lado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,351 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	859
CNEL:	92	199	429	925

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,294 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,334 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.2
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	855
CNEL:	92	198	427	920

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Old Myford Road to Market Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,891 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,301 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	847
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Bosque (LY Street) to Modjeska

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,374 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.7	52.6	53.9	62.2	62.3
Vehicle Noise:	70.4	69.5	66.5	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	186	402	865
CNEL:	93	200	432	931

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Jamboree Road to Old Myford Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,513	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,270	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	840
CNEL:	90	195	419	903

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Market Place to SR-261 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,325	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,254	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	54.9	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	388	836
CNEL:	90	194	417	899

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Jeffrey Road to Groveland

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,451 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.5	69.6	66.7	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	884
CNEL:	95	205	441	951

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Bake Parkway to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,011 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,476 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.6	69.6	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	890
CNEL:	96	206	444	957

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Independence Way (The Groves)/The Groves to JeffreyRoad

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,709 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,286 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	392	844
CNEL:	91	196	421	908

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Chinon (B Street) to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: SR-261 NB Off-Ramp to Central Park

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,097 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,153 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.51	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.73	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.69	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	811
CNEL:	87	188	405	872

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Pueblo Norte to Independence Way (The Groves)/ Parkwood

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,190 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,078 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	367	792
CNEL:	85	183	395	852

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Yale Avenue to Pueblo Norte

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,057 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,067 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.6	61.0	52.0	53.3	61.6	61.7
Vehicle Noise:	69.8	68.9	65.9	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	849

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Modjeska to Pusan Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,148 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Central Park Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,685 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,871 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	738
CNEL:	79	171	369	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Parker to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,409 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,849 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.2	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	69.3	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	340	732
CNEL:	79	170	366	788

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Alton Parkway to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,955 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,481 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.3	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	632
CNEL:	68	146	315	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Irvine Center Drive
Job Number: 15937
Road Segment: Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,275 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,230 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.86	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.38	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.34	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.1	63.5	57.1	55.6	64.0	64.2
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.3	71.3	68.3	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	237	510	1,099
CNEL:	118	254	548	1,181

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Orange Tree to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,698 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,605 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.4	56.0	54.5	62.9	63.1
Heavy Trucks:	63.4	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	71.2	70.2	67.2	62.4	71.0	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	210	452	974
CNEL:	105	225	486	1,046

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: I-405 SB Off-Ramp to Research

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,454 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,832 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.43	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.81	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.77	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.1	63.5	54.5	55.8	64.1	64.2
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	222	478	1,029
CNEL:	111	238	513	1,106

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Irvine Valley College to Orange Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,382 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,496 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	206	443	954
CNEL:	103	221	476	1,025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Fontaine Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,987 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,299 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.42	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.6	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	70.8	69.9	66.8	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	918
CNEL:	99	212	458	986

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Culver Drive to Deerwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,661 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,272 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	197	424	913
CNEL:	98	211	455	981

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Deerwood to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,150 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,230 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.3	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	420	905
CNEL:	97	210	451	972

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Yale Avenue to Fontaine Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,813 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,202 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.65	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.59	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	97	208	449	967

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Jeffrey Road to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,074 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,306 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.4	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.8	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	919
CNEL:	99	213	458	988

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Alton Parkway to Spectrum

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,648 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,858 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.9	52.8	54.1	62.4	62.5
Vehicle Noise:	70.2	69.2	66.2	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	387	834
CNEL:	90	193	416	896

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Spectrum to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,982 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,803 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	824
CNEL:	88	191	411	885

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Hearthstone to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,389 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,002 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.83	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.3
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	862
CNEL:	93	200	430	926

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Charter to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,888 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,713 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	374	806
CNEL:	87	187	402	866

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Jamboree Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,538 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,767 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	816
CNEL:	88	189	407	877

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Pacifica to Entertainment (Enterprise/Fortune)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,656 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,777 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	380	818
CNEL:	88	189	408	879

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,525 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,601 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	783
CNEL:	84	181	391	842

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Harvard Avenue to Hearthstone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,072 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,563 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.7	68.8	65.7	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	360	776
CNEL:	83	180	387	834

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Research to Hubble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,150 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,487 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.69	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	353	760
CNEL:	82	176	379	817

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Barranca Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,369	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,258	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	331	713
CNEL:	77	165	356	766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,012 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,559 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.7	68.8	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	167	360	775
CNEL:	83	179	386	833

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Discovery to Charter

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,747 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,207 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	702
CNEL:	75	163	350	754

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,424 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,427 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	80	173	373	804

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Muller to Tesla

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,797 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,293 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	334	720
CNEL:	77	167	359	774

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Sand Canyon Avenue to Odyssey

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,063 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	671
CNEL:	72	155	335	721

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Tesla to Scientific Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,203 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,162 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.25	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	693
CNEL:	74	160	345	744

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Scientific Way to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,631 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,032 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.7	67.8	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	665
CNEL:	71	154	331	714

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Gateway Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,437 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,769 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	68.1	67.2	64.1	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	281	606
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Laguna Canyon Road to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,659 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,704 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	59.8	59.1	52.7	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	63.9	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	591
CNEL:	64	137	295	635

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Odyssey to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,273 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,755 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	603
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive (Edinger)
Road Segment: Redhill Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,743 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,114 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.71	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.67	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	883
CNEL:	95	204	441	949

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: I-5 SB Off-Ramp to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,825 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,761 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.1	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	73.3	70.4	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	156	337	725	1,562
CNEL:	168	362	780	1,681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	77,890	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	6,426	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.26	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-11.98	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-15.94	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.6	72.5	70.7	64.7	73.3	73.9
Medium Trucks:	66.9	66.3	59.9	58.4	66.8	67.1
Heavy Trucks:	67.0	66.4	57.3	58.6	67.0	67.1
Vehicle Noise:	75.1	74.2	71.2	66.4	74.9	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	170	367	791	1,704
CNEL:	183	395	851	1,833

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Walnut Avenue to Michelle Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,833 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,936 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.13	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.6	69.7	64.8	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	654	1,409
CNEL:	152	327	704	1,516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: I-405 NB Off-Ramp to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	79,710	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	6,576	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.36	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.88	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-15.84	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.0	74.0	72.2	66.1	74.8	75.4
Medium Trucks:	68.4	67.7	61.4	59.8	68.3	68.5
Heavy Trucks:	68.4	67.9	58.8	60.1	68.4	68.6
Vehicle Noise:	76.6	75.7	72.7	67.9	76.4	76.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	267	576	1,241	2,673
CNEL:	288	619	1,335	2,875

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Michelle Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,450 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,657 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.2
Heavy Trucks:	65.2	64.6	55.5	56.8	65.1	65.3
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	292	629	1,356
CNEL:	146	314	677	1,458

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Main Street to Kelvin Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	67,444 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.63	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.61	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.56	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.3	73.2	71.5	65.4	74.0	74.6
Medium Trucks:	67.7	67.0	60.7	59.1	67.6	67.8
Heavy Trucks:	67.7	67.1	58.1	59.4	67.7	67.8
Vehicle Noise:	75.9	75.0	72.0	67.1	75.7	76.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	239	515	1,110	2,391
CNEL:	257	554	1,194	2,572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	84,006 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,931 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	130 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	88.792
Medium Trucks:	88.747
Heavy Trucks:	88.792

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.59	-3.84	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.65	-3.84	-1.20	*-4.96*	0.000	0.000
Heavy Trucks:	86.40	-15.61	-3.84	-1.20	*-5.14*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.3	71.3	69.5	63.4	72.1	72.7
Medium Trucks:	65.7	65.0	58.7	57.1	65.6	65.8
Heavy Trucks:	65.7	65.2	56.1	57.4	65.7	65.9
Vehicle Noise:	73.9	73.0	70.0	65.1	73.7	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	194	418	901	1,940
CNEL:	209	450	969	2,088

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Kelvin Avenue to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,646	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,168	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.31	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.93	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.88	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.0	72.9	71.2	65.1	73.7	74.3
Medium Trucks:	67.4	66.7	60.3	58.8	67.3	67.5
Heavy Trucks:	67.4	66.8	57.8	59.0	67.4	67.5
Vehicle Noise:	75.6	74.6	71.7	66.8	75.4	75.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	228	490	1,057	2,276
CNEL:	245	528	1,137	2,449

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,804 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,099 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.25	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.99	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.94	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.9	72.9	71.1	65.0	73.7	74.3
Medium Trucks:	67.3	66.6	60.3	58.7	67.2	67.4
Heavy Trucks:	67.3	66.8	57.7	59.0	67.3	67.5
Vehicle Noise:	75.5	74.6	71.6	66.7	75.3	75.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	226	486	1,047	2,256
CNEL:	243	523	1,126	2,427

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Birch Street to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,836 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,699 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.1	63.5	57.1	55.6	64.0	64.2
Heavy Trucks:	64.2	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	540	1,163
CNEL:	125	269	581	1,251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,671 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,180 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.39	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.85	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.80	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.6	68.9	62.8	71.4	72.0
Medium Trucks:	65.1	64.4	58.0	56.5	65.0	65.2
Heavy Trucks:	65.1	64.5	55.5	56.7	65.1	65.2
Vehicle Noise:	73.3	72.3	69.4	64.5	73.1	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	276	594	1,280
CNEL:	138	297	639	1,377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Alton Parkway to Beckman

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,746	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,682	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.88	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.36	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.31	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.6	72.5	70.7	64.7	73.3	73.9
Medium Trucks:	66.9	66.3	59.9	58.4	66.8	67.1
Heavy Trucks:	67.0	66.4	57.4	58.6	67.0	67.1
Vehicle Noise:	75.1	74.2	71.2	66.4	74.9	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	213	459	989	2,131
CNEL:	229	494	1,064	2,293

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Fairchild Road to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,728	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,855	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.04	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.20	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.16	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.4	71.1	71.7
Medium Trucks:	64.7	64.0	57.7	56.1	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	563	1,212
CNEL:	130	281	605	1,304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Beckman to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,974 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,453 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.66	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.57	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.53	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.3	72.3	70.5	64.5	73.1	73.7
Medium Trucks:	66.7	66.1	59.7	58.1	66.6	66.8
Heavy Trucks:	66.8	66.2	57.1	58.4	66.7	66.9
Vehicle Noise:	74.9	74.0	71.0	66.2	74.7	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	206	444	957	2,061
CNEL:	222	478	1,029	2,217

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: I-5 NB Off-Ramp to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,710	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,349	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	66.0	59.6	58.0	66.5	66.7
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	942	2,029
CNEL:	218	470	1,013	2,182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Campus Drive to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,224 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,483 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.60	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.64	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.60	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.1	62.0	70.6	71.2
Medium Trucks:	64.3	63.6	57.2	55.7	64.2	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.5	71.5	68.6	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	526	1,133
CNEL:	122	263	566	1,219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: El Camino Real to West Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,735	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,351	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	66.0	59.6	58.0	66.5	66.7
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	942	2,029
CNEL:	218	470	1,013	2,183

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: West Drive to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,526	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,333	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.55	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.69	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.65	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	65.9	59.6	58.0	66.5	66.7
Heavy Trucks:	66.6	66.1	57.0	58.3	66.6	66.7
Vehicle Noise:	74.8	73.9	70.9	66.0	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	436	939	2,024
CNEL:	218	469	1,011	2,177

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,213 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,060 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.26	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.98	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.93	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.9	71.9	70.1	64.0	72.7	73.3
Medium Trucks:	66.3	65.7	59.3	57.7	66.2	66.4
Heavy Trucks:	66.4	65.8	56.7	58.0	66.3	66.5
Vehicle Noise:	74.5	73.6	70.6	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	194	418	900	1,938
CNEL:	208	449	968	2,085

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Koll Center to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,496 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,258 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.31	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.93	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.89	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.2	71.3	68.3	63.4	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	503	1,084
CNEL:	117	251	541	1,166

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: MacArthur Boulevard to Koll Center

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,695 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,275 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.33	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.91	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.86	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.6	67.8	61.7	70.4	71.0
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.0	63.5	54.4	55.7	64.0	64.2
Vehicle Noise:	72.2	71.3	68.3	63.4	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	234	505	1,087
CNEL:	117	252	543	1,170

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Irvine Boulevard to Portola Pakway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,887 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,466 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.4	61.7	55.3	53.8	62.3	62.5
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.6	69.6	66.7	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	191	412	887
CNEL:	95	206	443	954

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Warner Avenue to Edinger Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	85,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,054 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.66	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-11.58	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-15.53	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	77.2	76.1	74.4	68.3	76.9	77.6
Medium Trucks:	70.6	69.9	63.6	62.0	70.5	70.7
Heavy Trucks:	70.6	70.0	61.0	62.3	70.6	70.7
Vehicle Noise:	78.8	77.9	74.9	70.0	78.6	79.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	239	515	1,110	2,391
CNEL:	257	554	1,194	2,572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	70,769 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,838 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.84	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.40	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.35	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.4	75.3	73.6	67.5	76.1	76.7
Medium Trucks:	69.8	69.1	62.8	61.2	69.7	69.9
Heavy Trucks:	69.8	69.2	60.2	61.4	69.8	69.9
Vehicle Noise:	78.0	77.0	74.1	69.2	77.8	78.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	211	454	978	2,107
CNEL:	227	488	1,052	2,267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Edinger Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,189 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,461 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.55	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.69	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.64	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.1	75.0	73.3	67.2	75.8	76.4
Medium Trucks:	69.5	68.8	62.5	60.9	69.4	69.6
Heavy Trucks:	69.5	68.9	59.9	61.1	69.5	69.6
Vehicle Noise:	77.7	76.7	73.8	68.9	77.5	77.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	434	936	2,016
CNEL:	217	467	1,006	2,168

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Walnut Avenue to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,962 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,534 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.9	62.3	55.9	54.4	62.8	63.0
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.0	70.1	67.0	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	205	442	953
CNEL:	102	220	474	1,022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: I-5 NB Off-Ramp to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,169 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,129 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.15	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.09	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.04	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.2	69.9	70.5
Medium Trucks:	63.9	63.2	56.8	55.3	63.8	64.0
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.0	71.1	67.9	63.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	487	1,049
CNEL:	113	242	522	1,125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Poplar (Meadows) to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,562 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,089 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	63.3	62.7	53.7	55.0	63.3	63.4
Vehicle Noise:	70.6	69.7	66.5	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	889
CNEL:	95	205	443	954

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,090 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,802 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.2	68.8
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	847
CNEL:	91	196	422	909

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Irvine Center Drive to Poplar (Meadows)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,470	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,916	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.98	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.22	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.2
Vehicle Noise:	70.4	69.5	66.3	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	401	864
CNEL:	93	200	430	927

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: I-405 NB Off-Ramp to Quail Creek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,688 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,769 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.2
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	391	842
CNEL:	90	195	419	903

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Barranca Parkway to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,426 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,748 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.2	69.3	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	389	839
CNEL:	90	194	418	900

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Quail Creek to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,819 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,780 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.82	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	392	844
CNEL:	91	195	420	905

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Irvine Valley College to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,854 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,618 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.60	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	380	819
CNEL:	88	189	408	879

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Trabuco Road to Hideaway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,135 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,146 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	747
CNEL:	80	173	372	801

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Hideaway to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,018 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,136 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.4
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	346	745
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Roosevelt to Grove

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,456	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,338	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.28	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.95	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.91	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	788
CNEL:	84	182	392	845

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Grove to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,151 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,312 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.25	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.99	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.94	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	62.0	61.3	54.9	53.4	61.9	62.1
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.1	69.2	66.0	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	784
CNEL:	84	181	390	841

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,995 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,392 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.84	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	667

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Encore to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,559 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,366 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-17.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-21.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	57.7	57.0	50.7	49.1	57.6	57.8
Heavy Trucks:	58.6	58.0	48.9	50.2	58.5	58.7
Vehicle Noise:	65.8	64.9	61.7	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	92	199	428
CNEL:	46	99	213	459

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Irvine Boulevard to Encore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,038 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,241 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.1	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	186	401
CNEL:	43	93	200	431

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeronimo Road
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,433 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	696 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.6	59.9	53.8	62.4	63.0
Medium Trucks:	56.4	55.8	49.4	47.9	56.3	56.6
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.5	63.6	60.5	55.8	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	122	262
CNEL:	28	60	130	281

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeronimo Road
Road Segment: Alton Parkway to Goodyear

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,252 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	681 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.86	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.5	59.8	53.7	62.3	62.9
Medium Trucks:	56.4	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	64.4	63.5	60.4	55.7	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	258
CNEL:	28	60	128	277

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Old Laguna Canyon Road to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,167 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,386 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	281	605	1,303
CNEL:	140	302	650	1,401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Laguna Canyon Freeway to Quail Hill Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,794 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,385 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	269	579
CNEL:	62	134	289	623

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Discovery to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,943 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	903 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.7	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.8	66.9	64.0	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	202	435
CNEL:	47	101	217	468

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: I-405 Overcrossing to Pasteur

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,635 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	712 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.88	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.12	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.08	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Irvine Center Drive to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,104 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	751 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	67.0	66.1	63.2	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	83	179	385
CNEL:	41	89	192	414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Quail Hill Parkway to I-405 Overcrossing

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,635 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	712 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.88	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.12	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.08	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Pasteur to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,294 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	684 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	66.6	65.7	62.8	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	362
CNEL:	39	84	181	389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Waterworks to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	582 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	57.8	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	65.9	65.0	62.1	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	151	325
CNEL:	35	75	162	349

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,757 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	557 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.55	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.3	55.3	63.9	64.5
Medium Trucks:	57.6	56.9	50.5	49.0	57.4	57.7
Heavy Trucks:	57.6	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	65.8	64.8	61.9	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	68	147	316
CNEL:	34	73	158	340

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,177 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	510 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.7	61.0	54.9	63.5	64.1
Medium Trucks:	57.2	56.5	50.1	48.6	57.1	57.3
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	65.4	64.4	61.5	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Lake Forest Drive
Road Segment: Hidden Canyon to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,913 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,478 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	239	515
CNEL:	55	119	257	554

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Lake Forest Drive
Road Segment: Bake Parkway to Hidden Canyon (Romano)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,780 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,467 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	238	513
CNEL:	55	119	256	551

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Lake Forest Drive
Road Segment: Tesla to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,227 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,091 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-19.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-23.22	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	57.8	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	58.3	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	66.0	65.1	62.0	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	204	439
CNEL:	47	102	219	472

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Lake Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,127 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	505 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.36	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	70.80	-19.60	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	77.97	-23.56	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.1	55.0	53.3	47.2	55.8	56.4
Medium Trucks:	50.9	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	54.1	53.5	44.5	45.8	54.1	54.2
Vehicle Noise:	59.0	58.1	54.2	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Lynx
Road Segment: Irvine Boulevard to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,330 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	110 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-8.99	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-26.23	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-30.19	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.4	49.3	47.5	41.5	50.1	50.7
Medium Trucks:	45.2	44.5	38.2	36.6	45.1	45.3
Heavy Trucks:	48.4	47.8	38.8	40.0	48.4	48.5
Vehicle Noise:	53.3	52.4	48.5	44.6	53.1	53.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	13	28
CNEL:	3	6	14	30

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: I-405 SB Off-Ramp to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,170	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,717	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.54	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.70	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.66	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.6	73.6	71.8	65.8	74.4	75.0
Medium Trucks:	67.9	67.2	60.8	59.3	67.8	68.0
Heavy Trucks:	67.6	67.0	57.9	59.2	67.5	67.7
Vehicle Noise:	76.1	75.2	72.3	67.4	75.9	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	248	535	1,152	2,482
CNEL:	267	576	1,241	2,673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Main Street to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,639	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,838	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.65	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.59	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.55	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.8	73.7	71.9	65.9	74.5	75.1
Medium Trucks:	68.0	67.3	61.0	59.4	67.9	68.1
Heavy Trucks:	67.7	67.1	58.0	59.3	67.7	67.8
Vehicle Noise:	76.2	75.3	72.4	67.5	76.0	76.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	252	544	1,171	2,524
CNEL:	272	586	1,262	2,718

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: I-405 NB Off-Ramp and I-405 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,119	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,712	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.53	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.71	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.66	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.6	73.6	71.8	65.8	74.4	75.0
Medium Trucks:	67.9	67.2	60.8	59.3	67.8	68.0
Heavy Trucks:	67.6	67.0	57.9	59.2	67.5	67.7
Vehicle Noise:	76.1	75.2	72.3	67.4	75.9	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	248	534	1,151	2,480
CNEL:	267	575	1,240	2,671

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Jamboree Road to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,283 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.6
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	357	768
CNEL:	82	178	382	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Fairchild Road to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,766	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,198	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	62.3	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	69.5	68.6	65.4	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	163	350	755
CNEL:	81	174	376	810

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Fitch to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,798 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,448 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.43	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.81	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.77	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	173	374	805
CNEL:	86	186	401	864

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Michelson Drive to Douglas

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,849 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,370 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.33	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.91	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.87	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.4	62.8	56.4	54.9	63.3	63.5
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	71.5	70.6	67.5	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	264	568	1,224
CNEL:	131	283	610	1,313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Douglas to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,587 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,431 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.40	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.84	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.79	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	64.4	63.8	54.7	56.0	64.3	64.5
Vehicle Noise:	71.6	70.7	67.5	62.9	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	124	267	575	1,239
CNEL:	133	286	617	1,329

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Skypark to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,703 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,781 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.49	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.75	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.70	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	69.3	68.4	65.2	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	150	324	697
CNEL:	75	161	347	748

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Redhill Avenue to Skypark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,376 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.5	53.1	51.5	60.0	60.2
Heavy Trucks:	61.0	60.4	51.3	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Birch Street to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,634 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,620 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.1
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	223	480
CNEL:	51	111	239	514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Campus Drive to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,815	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.64	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-16.60	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-20.56	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	68.8	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	810
CNEL:	87	187	404	869

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Gillette Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,628 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,187 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.08	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.16	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.11	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.9	69.0	65.8	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	165	355	764
CNEL:	82	177	380	819

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: MacArthur Boulevard to Mercantile

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,531 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,014 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.84	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.40	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.35	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.6	60.9	54.5	53.0	61.5	61.7
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	736
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Executive Park to MacArthur Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,869 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,217 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.51	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.73	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.69	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.8	59.2	52.8	51.2	59.7	59.9
Heavy Trucks:	60.7	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	67.9	67.0	63.8	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	591
CNEL:	63	137	294	634

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Von Karman Avenue to Cartwright

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,763 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,043 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	560
CNEL:	60	129	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: McDurmott to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,767 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,126 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	124	267	575
CNEL:	62	133	286	617

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Red Hill Avenue to Executive Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,362 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,092 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.94	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.8	63.0	56.9	65.6	66.2
Medium Trucks:	59.6	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.7	66.7	63.6	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	264	569
CNEL:	61	131	283	610

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Jamboree Road to Union

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,079 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,987 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.3	58.7	52.3	50.8	59.2	59.5
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.4	66.5	63.4	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	274	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,221 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	67.0	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	381
CNEL:	41	88	190	409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Siglo to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,387 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,847 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.1
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	113	243	523
CNEL:	56	121	261	562

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Veneto to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,730	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,958	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.23	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.6	65.3	65.9
Medium Trucks:	59.3	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	60.1	59.5	50.5	51.8	60.1	60.2
Vehicle Noise:	67.4	66.5	63.3	58.6	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	544
CNEL:	58	126	271	584

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Paseo Westpark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,180	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,005	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Harvard Avenue to San Mateo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,923 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	984 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	330
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Marine Way
Job Number: 15937
Road Segment: Sand Canyon Avenue to Ridge Valley (O Street)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,752 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,197 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.61	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	77.72	-13.63	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	82.99	-17.59	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	65.1	64.5	55.5	56.7	65.1	65.2
Vehicle Noise:	71.8	70.9	67.7	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	644
CNEL:	69	149	320	690

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: Alton Parkway to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,934 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,470 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.7	60.1	53.7	52.1	60.6	60.8
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.1
Vehicle Noise:	68.8	67.9	64.6	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	233	502
CNEL:	54	116	250	538

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: Lynx to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,584 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,688 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.1	68.2	65.0	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	247	531
CNEL:	57	123	264	569

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: County Access to Treble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,788 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,055 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.0	56.4	50.0	48.5	56.9	57.1
Heavy Trucks:	58.3	57.8	48.7	50.0	58.3	58.5
Vehicle Noise:	65.1	64.2	60.9	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	285
CNEL:	30	66	142	305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: Ridge Valley (O Street) to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,357 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,762 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.5	56.4	65.0	65.6
Medium Trucks:	59.3	58.6	52.2	50.7	59.1	59.4
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.3	66.4	63.1	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	186	401
CNEL:	43	92	199	429

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: Skyhawk to County Access

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,690 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	964 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.6	59.8	53.8	62.4	63.0
Medium Trucks:	56.6	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	58.0	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	64.7	63.8	60.5	56.0	64.5	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	268
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,956 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,316 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.0	61.2	55.1	63.8	64.4
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.0	65.1	61.9	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	330
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: Treble to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,116 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,577 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.8	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.8	65.9	62.6	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: McGaw Avenue
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,998 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-18.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-22.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.2	60.1	58.3	52.3	60.9	61.5
Medium Trucks:	55.4	54.7	48.3	46.8	55.3	55.5
Heavy Trucks:	57.2	56.6	47.6	48.9	57.2	57.3
Vehicle Noise:	63.4	62.5	59.1	54.7	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	24	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: McGaw Avenue
Road Segment: Red Hill Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,035 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	993 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-22.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.2	60.1	58.3	52.3	60.9	61.5
Medium Trucks:	55.4	54.7	48.3	46.8	55.3	55.5
Heavy Trucks:	57.2	56.7	47.6	48.9	57.2	57.3
Vehicle Noise:	63.4	62.5	59.1	54.7	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	24	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: McGaw Avenue
Road Segment: Daimler to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,107 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	751 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.2	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	56.0	55.4	46.4	47.7	56.0	56.1
Vehicle Noise:	62.2	61.3	57.9	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: McGaw Avenue
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,320 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	356 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-22.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-26.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.7	55.7	53.9	47.8	56.5	57.1
Medium Trucks:	50.9	50.3	43.9	42.4	50.8	51.0
Heavy Trucks:	52.8	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	58.9	58.1	54.6	50.2	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	111
CNEL:	12	26	55	119

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Meadowood
Road Segment: Culver Drive to Canyonwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	901 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.6	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	51.5	50.8	44.4	42.9	51.3	51.6
Heavy Trucks:	54.7	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	59.5	58.7	54.8	50.9	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Meridian
Road Segment: Spectrum to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,338 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	193 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.2	51.1	49.3	43.3	51.9	52.5
Medium Trucks:	46.7	46.0	39.6	38.1	46.5	46.8
Heavy Trucks:	49.1	48.6	39.5	40.8	49.1	49.3
Vehicle Noise:	54.7	53.8	50.2	46.0	54.5	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	27	58
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Meridian
Road Segment: Alton Parkway to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,950 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	161 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-25.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-29.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.4	50.3	48.6	42.5	51.1	51.7
Medium Trucks:	45.9	45.2	38.8	37.3	45.8	46.0
Heavy Trucks:	48.4	47.8	38.7	40.0	48.3	48.5
Vehicle Noise:	53.9	53.0	49.4	45.2	53.7	54.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	51
CNEL:	5	12	25	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Merit
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,204 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	264 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-5.18	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-22.41	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-26.37	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.2	53.1	51.4	45.3	53.9	54.5
Medium Trucks:	49.0	48.4	42.0	40.5	48.9	49.1
Heavy Trucks:	52.2	51.6	42.6	43.9	52.2	52.3
Vehicle Noise:	57.1	56.2	52.3	48.4	56.9	57.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	23	50
CNEL:	5	12	25	53

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Riparian to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,861 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,886 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.9	60.3	51.2	52.5	60.9	61.0
Vehicle Noise:	67.6	66.7	63.4	58.9	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	195	419
CNEL:	45	97	208	449

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Almond Tree Lane to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,055 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	747 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.71	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.94	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.90	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.8	51.4	49.8	58.3	58.5
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	66.4	65.6	62.3	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	98	211
CNEL:	23	49	105	226

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Von Karman Avenue to Obsidian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,381 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,846 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	67.5	66.6	63.3	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	414
CNEL:	44	95	206	443

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Parkside to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,030	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,487	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.5	57.9	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	59.9
Vehicle Noise:	66.6	65.7	62.4	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	358
CNEL:	38	83	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Gillman to Seton/Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,623 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	711 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.92	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.16	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-24.11	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.2	65.3	62.1	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	205
CNEL:	22	47	102	219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Carlson to Prince

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,099	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,071	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.72	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	77.72	-15.52	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	82.99	-19.47	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.7	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	66.7	65.8	62.5	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	204	440
CNEL:	47	101	218	471

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: MacArthur Boulevard to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,637 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,538 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.7	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	66.7	65.8	62.5	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	366
CNEL:	39	84	182	392

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Harvard Avenue to Parkside

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,101 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,493 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.5	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	59.9	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	66.6	65.7	62.4	57.9	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	167	359
CNEL:	38	83	178	384

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Bixby to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,064 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,325 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	59.3	58.8	49.7	51.0	59.3	59.4
Vehicle Noise:	66.1	65.2	61.9	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	332
CNEL:	36	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Jamboree Road to Carlson

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,519 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,023 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.62	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.62	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.57	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.2	68.3	65.0	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	239	515
CNEL:	55	119	256	552

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Teller to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,548	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,025	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.63	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.61	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.57	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.2	68.3	65.0	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	239	516
CNEL:	55	119	256	552

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Jordan East to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,510 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	537 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.14	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-21.38	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-25.33	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.3	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	171
CNEL:	18	39	85	183

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Culver Drive to Angell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	709 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.93	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.17	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	82.99	-24.12	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.8	57.2	50.8	49.2	57.7	57.9
Heavy Trucks:	59.1	58.5	49.5	50.8	59.1	59.2
Vehicle Noise:	65.9	65.0	61.7	57.1	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	44	95	206
CNEL:	22	47	102	220

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Modjeska (A Street)
Road Segment: Portola Springs to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,121 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	27.659
Medium Trucks:	27.514
Heavy Trucks:	27.659

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.46	3.75	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	79.45	-18.69	3.79	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	84.25	-22.65	3.75	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	64.2	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	71.4	70.5	67.3	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	361
CNEL:	39	83	180	387

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Modjeska (A Street)
Road Segment: South of Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,669 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	138 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.56	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-27.80	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-31.76	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	57.5	55.7	49.6	58.3	58.9
Medium Trucks:	52.3	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	53.1	52.5	43.5	44.8	53.1	53.2
Vehicle Noise:	60.4	59.5	56.3	51.6	60.2	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	83
CNEL:	9	19	41	89

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Muirlands Boulevard
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,592 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,204 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Muirlands Boulevard
Road Segment: Alton Parkway to Sterling

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Muirlands Boulevard
Road Segment: Wrigley to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,711 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	966 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	57.9	57.2	50.8	49.3	57.8	58.0
Heavy Trucks:	58.7	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	70	151	326
CNEL:	35	75	162	350

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Newport Coast Drive
Road Segment: SR-73 NB Off-Ramp to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,431 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,438 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	58.4	57.7	51.3	49.8	58.3	58.5
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.4	65.5	62.2	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	163	350
CNEL:	37	81	174	375

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Newport Coast Drive
Road Segment: Turtle Crest to Bonita Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,390 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,022 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.9	56.2	49.9	48.3	56.8	57.0
Heavy Trucks:	58.2	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	64.9	64.0	60.8	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	129	279
CNEL:	30	64	139	299

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Nightmist
Road Segment: Sand Canyon Avenue to Tulip (Road C)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,094 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	998 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.3	58.2	56.5	50.4	59.0	59.6
Medium Trucks:	53.8	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	61.8	60.9	57.3	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	173
CNEL:	18	40	86	185

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Northwood
Road Segment: Yale Avenue to Savannah

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,646 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	383 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.02	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-22.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.8	57.1	51.0	59.6	60.3
Medium Trucks:	54.1	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	62.1	61.3	57.8	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	109
CNEL:	12	25	54	117

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Northwood
Road Segment: Goldrush to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,628 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	299 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.10	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.34	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.29	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.8	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	53.1	52.4	46.0	44.5	52.9	53.2
Heavy Trucks:	54.9	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	61.1	60.2	56.7	52.4	60.9	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	93
CNEL:	10	21	46	99

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Oak Canyon Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,939 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	655 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.79	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.03	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.98	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.5	56.4	65.0	65.6
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	51	109	235
CNEL:	25	54	117	252

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Pacifica
Road Segment: Gateway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,905 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	900 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.3	59.5	53.5	62.1	62.7
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	57.7	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	64.4	63.5	60.2	55.7	64.2	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	55	119	256
CNEL:	27	59	127	274

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Pacifica
Road Segment: Alton Parkway to Gateway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,790 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	643 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.55	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.8	58.1	52.0	60.6	61.2
Medium Trucks:	54.9	54.2	47.8	46.3	54.8	55.0
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	62.9	62.0	58.7	54.2	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	205
CNEL:	22	47	102	219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Pacifica
Job Number: 15937
Road Segment: Irvine Center Drive to Fortune Drive (Spectrum Center Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,857 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	648 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	54.9	54.2	47.9	46.3	54.8	55.0
Heavy Trucks:	56.2	55.6	46.6	47.9	56.2	56.3
Vehicle Noise:	63.0	62.1	58.8	54.2	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	44	96	206
CNEL:	22	47	102	220

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Pacifica
Road Segment: Meridian to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,742 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	309 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-23.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-27.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.7	56.7	54.9	48.8	57.5	58.1
Medium Trucks:	51.7	51.0	44.7	43.1	51.6	51.8
Heavy Trucks:	53.0	52.4	43.4	44.6	53.0	53.1
Vehicle Noise:	59.7	58.8	55.6	51.0	59.5	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	58	126
CNEL:	13	29	62	134

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Park Place
Road Segment: Christamon South to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,784 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	312 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.3	53.2	51.4	45.4	54.0	54.6
Medium Trucks:	48.8	48.1	41.7	40.2	48.6	48.9
Heavy Trucks:	51.2	50.6	41.6	42.9	51.2	51.3
Vehicle Noise:	56.8	55.9	52.3	48.1	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Portola Parkway
Job Number: 15937
Road Segment: Bee Canyon Access Road to Sand Canyon Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,658 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,869 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.5	69.2	69.8
Medium Trucks:	62.8	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	152	328	707
CNEL:	76	164	353	761

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Jeffrey Road to Bee Canyon Access Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,635 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,867 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.5	69.2	69.8
Medium Trucks:	62.8	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	71.0	70.1	67.1	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	152	328	707
CNEL:	76	164	353	760

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Arrowhead to Ridge Valley Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,644 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,868 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.5	69.2	69.8
Medium Trucks:	62.8	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	71.0	70.1	67.1	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	152	328	707
CNEL:	76	164	353	761

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Sand Canyon Avenue to Arrowhead

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,880 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,723 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	311	670
CNEL:	72	155	334	721

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Portola Springs to SR-241 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,931 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,397 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.7	68.8	65.9	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	582
CNEL:	63	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Gatepark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,146 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,157 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.1	66.1	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	377	812
CNEL:	87	188	405	873

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: ETC-6 (SR-261) NB Off-Ramp to Gatepark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,024 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,147 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	188	404	870

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Portola Parkway
Job Number: 15937
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,264 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,084 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.83	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	61.7	61.1	52.0	53.3	61.7	61.8
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	793
CNEL:	85	184	396	853

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Jamboree Road to Bellevue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,960 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,059 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.8	68.8	65.9	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	365	787
CNEL:	85	182	393	846

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Bellevue to ETC-6 (SR-261) SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,770 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,044 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.7	68.8	65.9	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	363	783
CNEL:	84	181	391	842

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Yale Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,831 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,966 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.6	68.6	65.7	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	763
CNEL:	82	177	381	821

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Culver Drive to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,489 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,773 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	60.9	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.0	60.4	51.3	52.6	61.0	61.1
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	331	712
CNEL:	77	165	356	766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Silverado to Portola Springs

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,969 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	987 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.0	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	68.2	67.3	64.4	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	462
CNEL:	50	107	231	497

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Pusan
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,434 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	201 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.37	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.61	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.57	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	51.9	50.2	44.1	52.7	53.3
Medium Trucks:	47.8	47.2	40.8	39.3	47.7	48.0
Heavy Trucks:	51.0	50.5	41.4	42.7	51.0	51.2
Vehicle Noise:	55.9	55.0	51.1	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	42
CNEL:	4	10	21	44

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Quail Hill Parkway
Road Segment: Shady Canyon Drive to Passage

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,960 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,317 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.3	66.4	63.2	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	186	401
CNEL:	43	93	199	430

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Quail Hill Parkway
Road Segment: East Knollcrest to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,254	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	846	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.1	57.5	48.5	49.8	58.1	58.2
Vehicle Noise:	65.4	64.5	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	148	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Quassar Drive (Spectrum)
Job Number: 15937
Road Segment: Irvine Center Drive to Spectrum Center Drive (Fortune)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,991 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	164 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.24	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.48	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	77.97	-28.44	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.8	50.7	48.9	42.9	51.5	52.1
Medium Trucks:	46.6	45.9	39.6	38.0	46.5	46.7
Heavy Trucks:	49.8	49.2	40.2	41.4	49.8	49.9
Vehicle Noise:	54.6	53.8	49.9	46.0	54.5	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	8	18	39

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: MacArthur Boulevard to McGaw Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,924 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,459 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.98	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.8	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.0	70.1	67.0	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	204	440	947
CNEL:	102	219	472	1,018

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: I-405 Over Crossing to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,812 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,717 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.5	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.6	60.8	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	264	570
CNEL:	61	132	284	612

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: Alton Parkway to Deere Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,843 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,545 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.65	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.59	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	772
CNEL:	83	179	385	830

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,669 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,448 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	752
CNEL:	81	174	375	808

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: Deere Avenue to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,582 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,440 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.5	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	751
CNEL:	81	174	374	807

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: Skypark East to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,882 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,640 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.26	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.50	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.45	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	301	648
CNEL:	70	150	323	696

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: Main Street to Skypark East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,274	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,425	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.87	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.11	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.06	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	590
CNEL:	63	136	294	633

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Research Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,761 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,043 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.1	60.5	54.1	52.5	61.0	61.2
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.2	68.3	65.1	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	537
CNEL:	58	124	267	576

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Research Drive
Road Segment: Scientific to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,994 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,320 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.2	58.6	52.2	50.6	59.1	59.3
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.3	66.4	63.2	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	186	401
CNEL:	43	93	200	430

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Research Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,604 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,040 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.0	58.4	49.4	50.7	59.0	59.1
Vehicle Noise:	66.3	65.4	62.2	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Research Drive
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,824 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	810 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	65.2	64.3	61.1	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	135	290
CNEL:	31	67	144	311

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Irvine Boulevard to Trabuco Road (Great Park Boulevard)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,535 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,282 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.5	65.1	65.7
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.0
Vehicle Noise:	67.2	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	393
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Ridge Valley (O Street)
Road Segment: Portola Parkway to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,575 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,037 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	58.2	57.5	51.1	49.6	58.1	58.3
Heavy Trucks:	59.0	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	66.3	65.4	62.2	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Trabuco Road (Great Park Boulevard) to Marine Way

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	918 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Ridge Valley (O Street)
Road Segment: Ranchland to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	935 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	77 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-13.08	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-30.31	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-34.27	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	55.0	53.2	47.1	55.8	56.4
Medium Trucks:	49.8	49.1	42.8	41.2	49.7	49.9
Heavy Trucks:	50.6	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	57.9	56.9	53.8	49.1	57.7	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	61

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Ridgeline Drive
Road Segment: Concordia East to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,575	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,285	vehicles
Vehicle Speed:	35	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	40.0	feet
Centerline Dist. to Observer:	40.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.23	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.01	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-20.96	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.3	57.2	65.8	66.5
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	68.3	67.5	64.0	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	301
CNEL:	32	69	149	322

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Ridgeline Drive
Road Segment: Turtle Rock Drive to San Simeon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,257 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,176 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.15	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.39	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.35	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	60.0	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	67.9	67.1	63.6	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	284
CNEL:	30	65	141	303

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Rockfield Avenue
Road Segment: Whatney to McLaren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,880	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,310	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	67.3	66.4	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	185	399
CNEL:	43	92	199	428

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Rockfield Avenue
Road Segment: Bake Parkway to Whatney

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,694 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	552 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	55.4	54.8	48.4	46.9	55.3	55.6
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.5	62.6	59.5	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	224
CNEL:	24	52	112	241

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Rockfield Avenue
Road Segment: Thomas to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,145 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	424 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	54.3	53.6	47.3	45.7	54.2	54.4
Heavy Trucks:	55.1	54.6	45.5	46.8	55.1	55.2
Vehicle Noise:	62.4	61.5	58.3	53.6	62.2	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	87	188
CNEL:	20	44	94	202

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Roosevelt
Road Segment: Jeffrey Road to Vision

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,443 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,274 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.9	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	59.2	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	65.9	65.0	61.7	57.2	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	323
CNEL:	35	75	161	346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Roosevelt
Road Segment: Yale Avenue to Van Buren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,812 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	727 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.82	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-20.06	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-24.02	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.5	66.2
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	67.8	66.9	63.6	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	209
CNEL:	22	48	104	223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Roosevelt
Road Segment: Vision to Bay Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,654 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,209 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.6	57.0	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.0
Vehicle Noise:	65.7	64.8	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	312
CNEL:	33	72	155	334

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Roosevelt
Road Segment: Nimitz to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,187 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,170 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.7	54.6	63.2	63.9
Medium Trucks:	57.5	56.8	50.4	48.9	57.4	57.6
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	65.5	64.6	61.3	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	142	305
CNEL:	33	70	152	327

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Roosevelt
Road Segment: Tulip (Road C) to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,745 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,134 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.3	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	58.7	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.4	64.5	61.2	56.7	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	299
CNEL:	32	69	149	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Royal Oak
Road Segment: Alton Parkway to Eaglecreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	398 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.86	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	75.75	-22.09	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	81.57	-26.05	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	63.8	62.9	59.5	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Oak Canyon Drive to Burt Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,414 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,994 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.1	61.0	69.7	70.3
Medium Trucks:	63.5	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.6	70.7	67.6	62.9	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	225	484	1,043
CNEL:	112	241	520	1,120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Irvine Center Drive to Oak Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,483 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,752 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	464	1,000
CNEL:	107	232	499	1,075

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: I-405 NB Off-Ramp to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,364 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,660 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.23	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.01	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.97	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.8
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.5	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.2	73.3	70.2	65.4	74.0	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	238	513	1,106
CNEL:	119	256	551	1,188

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Burt Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,493	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,248	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.87	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.36	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.32	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.2	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.6	64.0	54.9	56.2	64.6	64.7
Vehicle Noise:	72.3	71.4	68.3	63.5	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	237	512	1,102
CNEL:	118	255	550	1,184

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Marine to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,568	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,914	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.51	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.73	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.69	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.8	63.7	72.3	72.9
Medium Trucks:	66.2	65.5	59.1	57.6	66.0	66.3
Heavy Trucks:	66.6	66.0	57.0	58.2	66.6	66.7
Vehicle Noise:	74.3	73.4	70.3	65.5	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	188	404	871	1,876
CNEL:	202	434	935	2,015

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Trabuco Road to Towngate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,099 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,473 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.00	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.24	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.9	62.2	55.8	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.0	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	205	441	950
CNEL:	102	220	474	1,021

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,308 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,995 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.36	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	400	861
CNEL:	92	199	429	925

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: I-5 SB Off-Ramp to Marine

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,577 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,090 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.71	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.53	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.49	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	69.0	62.9	71.5	72.1
Medium Trucks:	65.4	64.7	58.3	56.8	65.3	65.5
Heavy Trucks:	65.8	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	73.5	72.6	69.5	64.8	73.3	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	166	358	770	1,660
CNEL:	178	384	828	1,783

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Hospital to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,821 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	384	827
CNEL:	89	191	412	889

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Nightmist to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,045 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,799 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.39	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.85	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.81	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	65.0	64.4	58.0	56.5	64.9	65.2
Heavy Trucks:	65.5	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.2	72.3	69.2	64.4	73.0	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	158	340	733	1,580
CNEL:	170	366	788	1,697

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: I-405 SB Off-Ramp to I-405 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,745 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,866 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.16	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.07	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.03	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.4	68.6	62.5	71.2	71.8
Medium Trucks:	65.0	64.3	58.0	56.4	64.9	65.1
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.1	72.2	69.2	64.4	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	436	939
CNEL:	101	217	469	1,009

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: I-5 NB Off-Ramp to Nightmist

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,445	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,832	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.43	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.81	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.77	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.6	71.3	71.9
Medium Trucks:	65.1	64.4	58.1	56.5	65.0	65.2
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	159	342	738	1,589
CNEL:	171	368	792	1,707

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Towngate to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,972 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,968 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	855
CNEL:	92	198	427	919

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Waterworks to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,409 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,591 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	363	782
CNEL:	84	181	390	840

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Irvine Boulevard to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,121 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,495 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	60.9	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.0	60.2	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	241	519
CNEL:	56	120	259	558

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	153	331	712	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Alton Parkway to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,835 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,626 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.78	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.45	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.41	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	371	800
CNEL:	86	185	399	859

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon/Shady Canyon
Road Segment: Quail Hill Parkway to I-405 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,794 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,881 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.33	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.90	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.86	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	329	709
CNEL:	76	164	354	762

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Scientific Way
Road Segment: Irvine Center Drive to Wald

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,616 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	133 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-9.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-26.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-30.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.4	51.4	49.6	43.6	52.2	52.8
Medium Trucks:	46.7	46.0	39.6	38.1	46.5	46.8
Heavy Trucks:	48.5	47.9	38.9	40.1	48.5	48.6
Vehicle Noise:	54.7	53.8	50.4	46.0	54.5	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	27	58
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Shady Canyon Drive
Job Number: 15937
Road Segment: Culver Drive/Bonita Canyon Drive to Cloverfield

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,410 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	694 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.00	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.23	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.19	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	68.5	67.6	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	291
CNEL:	31	67	145	312

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Shady Canyon Drive
Road Segment: Bommer Canyon Road to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,350 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	606 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.58	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.82	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.78	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	67.0	66.1	63.1	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	143	307
CNEL:	33	71	153	330

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Skyhawk
Road Segment: Great Park Boulevard to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,035 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	993 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-20.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.1	56.0	54.2	48.2	56.8	57.4
Medium Trucks:	51.9	51.2	44.9	43.3	51.8	52.0
Heavy Trucks:	55.1	54.5	45.5	46.7	55.1	55.2
Vehicle Noise:	59.9	59.1	55.2	51.3	59.8	60.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	130
CNEL:	14	30	64	138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Southwood
Road Segment: Yale Avenue to Colt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,003 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	248 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.92	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.16	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.11	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.0	57.0	55.2	49.1	57.8	58.4
Medium Trucks:	52.2	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	54.1	53.5	44.5	45.7	54.1	54.2
Vehicle Noise:	60.2	59.4	55.9	51.5	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	40	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Southwood
Road Segment: Challenger to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,867 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	237 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.12	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.31	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.8	56.8	55.0	48.9	57.6	58.2
Medium Trucks:	52.0	51.4	45.0	43.5	51.9	52.2
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	60.0	59.2	55.7	51.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Spectrum Center Drive (Fortune
Road Segment: Pacifica to Quassar Drive (Spectrum)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,702	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	965	vehicles
Vehicle Speed:	30	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	53.7	53.0	46.6	45.1	53.5	53.8
Heavy Trucks:	56.1	55.6	46.5	47.8	56.1	56.2
Vehicle Noise:	61.7	60.8	57.2	53.0	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	169
CNEL:	18	39	84	181

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Spectrum Center Drive (Fortune
Road Segment: Quassar Drive (Spectrum) to Gatewayb

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,210 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,090 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.7	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	62.2	61.3	57.7	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	85	184
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sunnyhill
Road Segment: Shady Canyon Drive to Turtle Rock Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,827 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	481 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-19.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-23.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.9	52.8	51.1	45.0	53.6	54.3
Medium Trucks:	48.7	48.1	41.7	40.2	48.6	48.9
Heavy Trucks:	52.0	51.4	42.3	43.6	51.9	52.1
Vehicle Noise:	56.8	56.0	52.0	48.1	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Technology Drive
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,461 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,265 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.6	60.9	54.5	53.0	61.5	61.7
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.7	68.7	65.6	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	575
CNEL:	62	133	286	617

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Technology Drive
Job Number: 15937
Road Segment: Old Laguna Canyon Road to I-5/SR-133 Undercrossing

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,421 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,190 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	58.8	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.9	65.9	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	374
CNEL:	40	87	186	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Technology Drive
Road Segment: I-5/SR-133 to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,458 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	945 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.0	61.2	55.1	63.8	64.4
Medium Trucks:	57.8	57.1	50.7	49.2	57.7	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.9	64.9	61.8	57.1	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	321
CNEL:	34	74	160	344

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Technology Drive
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,747 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	227 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-8.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-25.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-29.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.8	56.8	55.0	48.9	57.6	58.2
Medium Trucks:	51.6	50.9	44.5	43.0	51.5	51.7
Heavy Trucks:	52.4	51.8	42.8	44.0	52.4	52.5
Vehicle Noise:	59.7	58.7	55.6	50.9	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	27	58	124
CNEL:	13	29	62	133

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Toledo Way
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,101 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	668 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.7	61.0	54.9	63.5	64.1
Medium Trucks:	57.4	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	57.8	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	65.5	64.6	61.5	56.7	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	304
CNEL:	33	70	151	326

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Toledo Way
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,577 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	543 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	56.5	55.8	49.4	47.9	56.3	56.6
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	64.6	63.7	60.6	55.8	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	123	264
CNEL:	28	61	132	284

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Toledo Way
Road Segment: Alton Parkway to Parker

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,118 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	505 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.5	59.7	53.7	62.3	62.9
Medium Trucks:	56.1	55.5	49.1	47.6	56.0	56.3
Heavy Trucks:	56.6	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	64.3	63.4	60.3	55.5	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	252
CNEL:	27	58	126	271

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: Keystone to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,020 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,157 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.7	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	367
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: Jeffrey Road to Keystone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,755 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,135 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.6	65.2
Medium Trucks:	58.6	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.6	65.7	62.6	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	363
CNEL:	39	84	181	389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: Culver Drive to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,898 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,064 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.3	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.1	58.5	49.5	50.8	59.1	59.2
Vehicle Noise:	66.4	65.5	62.3	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	161	347
CNEL:	37	80	173	373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: Monroe to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,040 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.0	58.4	49.4	50.7	59.0	59.1
Vehicle Noise:	66.3	65.4	62.2	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: I-5 NB Off-Ramp to Monroe

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,040 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.0	58.4	49.4	50.7	59.0	59.1
Vehicle Noise:	66.3	65.4	62.2	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: Yale Avenue to Remington

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,025	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	910	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.4	57.9	48.8	50.1	58.4	58.6
Vehicle Noise:	65.7	64.8	61.6	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	313
CNEL:	34	72	156	336

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: Remington to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,025 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.4	57.9	48.8	50.1	58.4	58.6
Vehicle Noise:	65.7	64.8	61.6	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	313
CNEL:	34	72	156	336

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Ridge Drive
Road Segment: Federation Way to Bonita Canyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,210 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,750 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.0
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.5	67.6	64.5	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	225	484
CNEL:	52	112	241	519

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Rock Drive
Road Segment: Ridgeline to Willowleaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,148 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	672 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.68	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.91	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.87	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.4	62.6	56.5	65.2	65.8
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.3	66.3	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	239
CNEL:	26	55	119	256

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Rock Drive
Road Segment: Silkwood to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,856 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	648 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.83	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.07	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.03	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.1
Heavy Trucks:	59.9	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Rock Drive
Road Segment: Canyon Park to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,963 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	574 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.36	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.60	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.55	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.3	58.7	49.7	51.0	59.3	59.4
Vehicle Noise:	66.6	65.7	62.5	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	46	100	215
CNEL:	23	50	107	231

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Rock Drive
Road Segment: Sunnyhill to Southernwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,609 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	298 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.21	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.45	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-28.41	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.7	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	56.5	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	63.7	62.8	59.7	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	139
CNEL:	15	32	69	149

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Rock Drive
Road Segment: Campus Drive to Hillgate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,089 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	585 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	55.9	46.9	48.2	56.5	56.6
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Rock Drive
Road Segment: Paseo Segovia to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,044 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	334 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.72	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-23.96	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-27.91	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.2	64.2	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	185
CNEL:	20	43	92	198

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Golden Glow to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,438	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,254	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.4	71.5	68.4	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	872
CNEL:	94	202	435	937

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Ridgeline to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,362	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,072	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.69	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.55	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-17.50	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.9	63.3	56.9	55.3	63.8	64.0
Heavy Trucks:	64.3	63.8	54.7	56.0	64.3	64.4
Vehicle Noise:	72.1	71.1	68.1	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	215	463	997
CNEL:	107	231	497	1,072

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Culver Drive to Golden Glow
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,353 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,164 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.1	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.5	63.9	54.9	56.2	64.5	64.6
Vehicle Noise:	72.2	71.3	68.3	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	856
CNEL:	92	198	427	920

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Yale Avenue to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,343	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,916	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.9	71.0	67.9	63.1	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	811
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,745 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,516 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.4	63.8	54.8	56.1	64.4	64.5
Vehicle Noise:	72.1	71.2	68.2	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	525	1,132
CNEL:	122	262	564	1,216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Mesa to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,065 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,470 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.00	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.24	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.20	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.3	71.2	69.4	63.4	72.0	72.6
Medium Trucks:	65.8	65.2	58.8	57.2	65.7	65.9
Heavy Trucks:	66.2	65.6	56.6	57.9	66.2	66.3
Vehicle Noise:	73.9	73.0	70.0	65.2	73.8	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	495	1,067
CNEL:	115	247	532	1,147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,129 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,476 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.00	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.24	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.19	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.3	71.2	69.4	63.4	72.0	72.6
Medium Trucks:	65.8	65.2	58.8	57.3	65.7	65.9
Heavy Trucks:	66.2	65.7	56.6	57.9	66.2	66.3
Vehicle Noise:	74.0	73.0	70.0	65.2	73.8	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	496	1,068
CNEL:	115	247	533	1,148

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: California Avenue to Mesa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,950	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,378	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.88	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.36	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.32	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.1	69.3	63.3	71.9	72.5
Medium Trucks:	65.7	65.0	58.7	57.1	65.6	65.8
Heavy Trucks:	66.1	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	73.8	72.9	69.9	65.1	73.6	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	487	1,048
CNEL:	113	243	523	1,126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,789	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,788	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.19	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	821
CNEL:	88	190	409	882

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,527 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,528 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.57	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-17.80	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-21.76	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	55.0	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	264	569
CNEL:	61	132	284	611

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,273 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,580 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.5	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.7	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	362	779
CNEL:	84	180	389	837

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: San Joaquin to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,239 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,247 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.13	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.09	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.0	60.3	53.9	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.1	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	330	711
CNEL:	76	165	354	764

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Harvard Avenue to San Joaquin
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,126	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,238	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.0	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.1	60.3	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	329	709
CNEL:	76	164	353	761

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Valley Oak Drive
Road Segment: Hawkcreek to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,681 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,129 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.8	66.9	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	431
CNEL:	46	100	215	463

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Valley Oak Drive
Road Segment: Irvine Center Drive to Oak Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,844 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	647 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.30	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.54	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.49	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.8	56.7	65.4	66.0
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	67.3	66.4	63.3	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	321
CNEL:	34	74	160	345

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Valley Oak Drive
Road Segment: Barranca Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,042 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	663 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	57.3	56.7	50.3	48.8	57.2	57.4
Heavy Trucks:	57.7	57.2	48.1	49.4	57.7	57.9
Vehicle Noise:	65.5	64.5	61.5	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Valley Oak Drive
Road Segment: Alton Parkway to Hawkcreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,753 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	557 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.95	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.2	54.1	62.7	63.4
Medium Trucks:	56.6	55.9	49.5	48.0	56.5	56.7
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	64.7	63.8	60.7	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	269
CNEL:	29	62	134	289

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Marriott to Morse Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,180	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,655	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	639
CNEL:	69	148	318	686

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Michelson Drive to Quartz

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,568 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,522 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.1	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	618
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,817 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,377 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.9	69.0	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	276	594
CNEL:	64	137	296	637

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,462 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,926 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.71	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.53	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	84.25	-18.48	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	69.5	68.6	65.4	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	672
CNEL:	72	155	334	720

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Main Street to Anchor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,652 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,281 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.4	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	69.7	68.8	65.6	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	268	578
CNEL:	62	134	288	620

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Anchor to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,101 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,236 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	69.6	68.7	65.5	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	265	570
CNEL:	61	132	284	612

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Morse to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,235 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,247 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	265	572
CNEL:	61	132	285	614

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Martin to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,409 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,931 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.9	60.2	53.8	52.3	60.8	61.0
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.0	68.0	64.9	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	240	517
CNEL:	55	119	257	555

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Campus Drive to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,065 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,903 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.84	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	68.9	68.0	64.8	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	238	512
CNEL:	55	118	255	549

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,141 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,909 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.8	60.2	53.8	52.3	60.7	60.9
Heavy Trucks:	61.7	61.1	52.0	53.3	61.7	61.8
Vehicle Noise:	68.9	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	111	238	513
CNEL:	55	119	255	550

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Jeffrey Road to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,658 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,612 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.3	69.4	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	632
CNEL:	68	146	315	678

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Myford Road to Jamboree Road SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,679 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,789 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	491
CNEL:	53	114	245	527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: The Mall Street to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,607 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,618 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.9	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.2	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	459
CNEL:	49	106	229	493

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Harvard Avenue to The Mall Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,566 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,614 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.9	60.4	51.3	52.6	60.9	61.0
Vehicle Noise:	68.2	67.3	64.1	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	459
CNEL:	49	106	228	492

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Franciscan Street to Ravenwood Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,104 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,494 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.8	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	202	436
CNEL:	47	101	217	467

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Ravenwood Street to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,267 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,507 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.6	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	67.9	67.0	63.8	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	203	438
CNEL:	47	101	218	470

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Culver Drive to Franciscan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,122 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,495 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.4
Medium Trucks:	59.8	59.1	52.7	51.2	59.7	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	202	436
CNEL:	47	101	217	468

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Peters Canyon Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,611 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,948 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.25	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.9
Medium Trucks:	59.3	58.6	52.2	50.7	59.1	59.4
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.3	66.4	63.3	58.6	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	542
CNEL:	58	125	270	582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Walnut Avenue
Job Number: 15937
Road Segment: Jamboree Road NB Off-Ramp to Peters Canyon Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,091 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,905 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.3	62.6	56.5	65.1	65.8
Medium Trucks:	59.2	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.2	66.3	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	248	534
CNEL:	57	123	266	573

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Yale Avenue to Kazan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,893 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,146 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.55	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.5	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	66.7	65.8	62.6	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	169	365
CNEL:	39	84	182	392

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Wisteria to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,036 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,158 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.7	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	368
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Warner Avenue
Job Number: 15937
Road Segment: Jamboree Road SB Off-ramp to Construction North

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,474 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,349 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.8
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	69.8	68.9	65.8	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	589
CNEL:	63	136	293	632

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Warner Avenue
Road Segment: Construction North to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,399 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,600 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	60.1	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.1	67.2	64.1	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	98	212	456
CNEL:	49	105	227	489

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Warner Avenue
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,312	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,098	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.5
Heavy Trucks:	59.3	58.7	49.6	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	165	355
CNEL:	38	82	177	381

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Warner Avenue
Road Segment: Santa Ynez to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,265 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	847 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.1	57.6	48.5	49.8	58.1	58.2
Vehicle Noise:	65.4	64.5	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	298
CNEL:	32	69	149	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Warner Avenue
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,123 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	753 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	57.6	57.0	48.0	49.3	57.6	57.7
Vehicle Noise:	64.9	64.0	60.8	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	59	128	276
CNEL:	30	64	137	296

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Alton Parkway to Blue Lake North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,388 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	775 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	53	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Eagle Run to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,045 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	746 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.5	54.9	48.5	46.9	55.4	55.6
Heavy Trucks:	56.8	56.3	47.2	48.5	56.8	57.0
Vehicle Noise:	63.6	62.7	59.4	54.8	63.4	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	112	242

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Thunder Run to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,605 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	56.6	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	63.3	62.5	59.2	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	23	50	109	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Main Street to Timber Run

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,350	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	606	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.6	57.8	51.8	60.4	61.0
Medium Trucks:	54.6	54.0	47.6	46.0	54.5	54.7
Heavy Trucks:	55.9	55.4	46.3	47.6	55.9	56.1
Vehicle Noise:	62.7	61.8	58.5	53.9	62.5	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	42	91	197
CNEL:	21	45	98	211

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Yale Avenue to Shorebird

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,121 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	505 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.8	57.0	51.0	59.6	60.2
Medium Trucks:	53.8	53.2	46.8	45.3	53.7	53.9
Heavy Trucks:	55.1	54.6	45.5	46.8	55.1	55.3
Vehicle Noise:	61.9	61.0	57.7	53.1	61.7	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	38	81	174
CNEL:	19	40	87	187

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Warner Avenue to Stonecreek South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,494 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	536 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	54.1	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	58.0	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,497 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	536 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	54.1	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	58.0	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Stonecreek North to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	488 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	53.7	53.0	46.6	45.1	53.6	53.8
Heavy Trucks:	55.0	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	61.7	60.8	57.5	53.0	61.5	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Birdsong to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,221 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	513 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.9	57.1	51.0	59.7	60.3
Medium Trucks:	53.9	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	55.2	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	61.9	61.0	57.8	53.2	61.7	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	176
CNEL:	19	41	88	189

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Westwood
Road Segment: Yorktown to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,136 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	506 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.82	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-21.05	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-25.01	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.1	58.3	52.2	60.9	61.5
Medium Trucks:	55.3	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	63.3	62.5	59.0	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	131
CNEL:	14	30	65	140

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Westwood
Road Segment: Bryan Avenue to Leaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	316 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.86	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.10	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.06	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.1	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	53.3	52.6	46.3	44.7	53.2	53.4
Heavy Trucks:	55.1	54.6	45.5	46.8	55.1	55.3
Vehicle Noise:	61.3	60.4	57.0	52.6	61.1	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	45	96
CNEL:	10	22	48	103

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Deerfield Avenue to Winvale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,521 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	868 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.80	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.76	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.8	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Hicks Canyon Drive to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,885 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	650 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.82	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.06	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.01	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	234
CNEL:	25	54	116	251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Walnut Avenue to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,190 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.19	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.43	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-22.39	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.4	62.9	53.8	55.1	63.4	63.5
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	431
CNEL:	46	100	215	462

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,270 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,177 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.8
Heavy Trucks:	59.6	59.0	49.9	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,084 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,162 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.7	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.8	65.8	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	368
CNEL:	40	85	183	395

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: West Yale Loop to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,606 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	875 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	57.4	56.8	50.4	48.9	57.3	57.6
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.5	64.6	61.5	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	142	305
CNEL:	33	70	152	327

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Winvale Avenue to Karen Ann Lane

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,512 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	867 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	33	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Karen Ann Lane to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,512 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	867 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	33	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Trabuco Road to Southwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,224 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	844 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.3	56.6	50.2	48.7	57.2	57.4
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	65.4	64.5	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Southwood to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,061 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	830 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.1	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	65.3	64.4	61.2	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	137	294
CNEL:	32	68	147	316

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Northwood to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,496 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	783 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.1	60.4	54.3	62.9	63.5
Medium Trucks:	57.0	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	57.8	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	65.0	64.1	61.0	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	283
CNEL:	30	65	141	304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,368 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	773 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.1	60.3	54.3	62.9	63.5
Medium Trucks:	56.9	56.2	49.9	48.3	56.8	57.0
Heavy Trucks:	57.7	57.2	48.1	49.4	57.7	57.9
Vehicle Noise:	65.0	64.1	60.9	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	130	281
CNEL:	30	65	140	301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Irvine Boulevard to Park Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,567 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	624 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.2	59.4	53.3	62.0	62.6
Medium Trucks:	56.0	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.1	63.1	60.0	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	244
CNEL:	26	56	121	261

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: University Drive to Royce

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,588 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	296 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.24	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-24.48	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-28.43	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.9	58.1	52.0	60.7	61.3
Medium Trucks:	54.7	54.0	47.7	46.1	54.6	54.8
Heavy Trucks:	55.5	54.9	45.9	47.2	55.5	55.6
Vehicle Noise:	62.8	61.9	58.7	54.0	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	34	74	160
CNEL:	17	37	80	172

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Court
Road Segment: Arborwood to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,351 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	524 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.21	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-19.44	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-23.40	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.1	54.3	48.3	56.9	57.5
Medium Trucks:	52.0	51.3	45.0	43.4	51.9	52.1
Heavy Trucks:	55.2	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	60.0	59.2	55.3	51.4	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	84

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ada
Road Segment: Barranca Parway to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,114 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,907 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.36	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-15.87	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-19.83	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.9
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	70.5	69.6	66.3	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	395
CNEL:	42	91	196	423

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ada
Road Segment: Alton Parkway to Barranca PArkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,726 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,617 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	61.0	60.3	53.9	52.4	60.9	61.1
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.0	68.1	64.8	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	522
CNEL:	56	120	259	559

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Enterprise to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,472 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,721 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.37	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.33	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.2	71.1	69.3	63.3	71.9	72.5
Medium Trucks:	65.7	65.1	58.7	57.2	65.6	65.8
Heavy Trucks:	66.2	65.6	56.5	57.8	66.1	66.3
Vehicle Noise:	73.9	72.9	69.9	65.1	73.7	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	148	318	685	1,475
CNEL:	159	342	736	1,585

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: I-5 NB Off-Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	86,184 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,110 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.11	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.13	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.08	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.8	70.0	63.9	72.6	73.2
Medium Trucks:	66.4	65.7	59.4	57.8	66.3	66.5
Heavy Trucks:	66.8	66.2	57.2	58.4	66.8	66.9
Vehicle Noise:	74.5	73.6	70.6	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	155	335	721	1,554
CNEL:	167	360	775	1,669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,626 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,692 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.5	63.8	63.9
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	769
CNEL:	83	178	383	826

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Gateway Boulevard to Enterprise

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,611 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,093 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	63.6	62.9	56.5	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	228	492	1,060
CNEL:	114	245	529	1,139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Jeffrey Road to Royal Oak

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,386 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,177 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	667
CNEL:	72	154	333	717

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Daimler Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,087 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	299	645
CNEL:	69	149	322	693

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,096 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	299	645
CNEL:	69	149	322	693

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,022 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,064 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	644
CNEL:	69	149	321	692

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,329 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,317 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.94	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.29	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.25	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.2	63.6	57.2	55.6	64.1	64.3
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.7
Vehicle Noise:	72.4	71.4	68.4	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	240	517	1,114
CNEL:	120	258	556	1,197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Creek Road to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,792	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,045	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.7
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	640
CNEL:	69	148	319	688

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Red Hill Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,224 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,998 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.5	62.0	52.9	54.2	62.5	62.6
Vehicle Noise:	70.3	69.3	66.3	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	292	630
CNEL:	68	146	314	677

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,527 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,941 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	618
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Telemetry to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,656 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,952 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.50	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.1	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	288	620
CNEL:	67	144	309	666

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Irvine Boulevard to Commercentre

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,812 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,120 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.53	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.71	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.66	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	191	411	884
CNEL:	95	205	441	950

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Jenner to Telemetry

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,298	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,922	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	614
CNEL:	66	142	306	660

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Irvine Center Drive to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,786 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,447 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.23	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.8	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.0	70.0	67.0	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	204	439	945
CNEL:	102	219	471	1,016

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Sand Canyon Avenue to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,925 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,046 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.43	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.81	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.77	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.6	68.9	62.8	71.4	72.0
Medium Trucks:	65.3	64.6	58.2	56.7	65.1	65.4
Heavy Trucks:	65.7	65.1	56.0	57.3	65.6	65.8
Vehicle Noise:	73.4	72.5	69.4	64.6	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	211	454	978
CNEL:	105	226	488	1,051

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Laguna Canyon Road to Jenner

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,824 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,883 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.0	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	130	281	606
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Technology Drive East to Barranca Pkwy/Muirlands Blvd
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,377 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,414 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.8	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	436	939
CNEL:	101	217	468	1,009

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Royal Oak to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,871 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,804 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.08	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.9	68.5
Medium Trucks:	61.7	61.0	54.6	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.8	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	589
CNEL:	63	136	294	632

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,569 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,779 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	583
CNEL:	63	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Barranca Pkwy/Muirlands Blvd to Jeronimo Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,021 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,219 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	419	903
CNEL:	97	209	450	970

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Ada to Technology Drive East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,707 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,028 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.40	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	402	867
CNEL:	93	201	432	932

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,273 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,672 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	560
CNEL:	60	130	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Jeronimo Road to Hughes

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,649 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,529 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	769
CNEL:	83	178	383	826

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Hughes to Morgan
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,451 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.75	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.71	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	753
CNEL:	81	174	376	809

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Morgan to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,331 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,090 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.7	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.8	60.0	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	314	677
CNEL:	73	157	338	727

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: San Marino to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,956 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,141 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.90	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	60.8	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	688
CNEL:	74	159	343	739

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,156	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,075	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.76	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	60.0	53.6	52.1	60.5	60.7
Heavy Trucks:	61.0	60.5	51.4	52.7	61.0	61.2
Vehicle Noise:	68.8	67.8	64.8	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	313	674
CNEL:	72	156	336	724

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Hospital to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,499 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,104 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.82	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.42	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.37	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.1	63.5	54.4	55.7	64.0	64.2
Vehicle Noise:	71.8	70.9	67.8	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	165	355	764
CNEL:	82	177	381	821

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,321 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,006 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.62	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.62	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.58	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.4	62.8	56.4	54.9	63.3	63.6
Heavy Trucks:	63.9	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	71.6	70.7	67.6	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	741
CNEL:	80	171	369	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Murphy Avenue to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,016 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,981 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.63	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.8	53.4	51.9	60.3	60.5
Heavy Trucks:	60.8	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.6	67.6	64.6	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	141	303	653
CNEL:	70	151	326	702

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Foster to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,305 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,923 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	641
CNEL:	69	148	319	688

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Fairbanks to Foster

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,341 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,843 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	68.2	67.3	64.3	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	623
CNEL:	67	144	311	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Toledo Way to Bertea

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,840 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	613
CNEL:	66	142	306	659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Pacifica to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,324 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,924 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.43	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.80	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.76	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.3	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.4	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	334	720
CNEL:	77	167	359	774

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Bertea to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,315 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,758 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Meridian to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,018	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,734	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	59.9	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	60.3	59.7	50.6	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.0	59.2	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	598
CNEL:	64	138	298	642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Paseo Westpark to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,047 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,736 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	59.9	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.0	59.2	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	598
CNEL:	64	139	298	643

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,516 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,528 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.57	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.3	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.4	66.5	63.5	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	274	590

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Astor
Road Segment: Lynx to Fairbanks
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,799 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,633 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.94	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-15.30	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-19.25	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.3	61.5	55.4	64.1	64.7
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	58.9
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	66.8	66.0	62.3	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	225
CNEL:	24	52	111	239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Astor
Road Segment: Cadence to Lynx
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,995 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,237 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.73	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-16.50	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-20.46	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	57.6	57.0	50.6	49.0	57.5	57.7
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	65.6	64.8	61.1	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	87	187
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: I-5 NB Off-Ramp to Rockfield Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	98,304	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	8,110	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.68	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-10.56	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-14.51	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.8	73.7	71.9	65.9	74.5	75.1
Medium Trucks:	68.3	67.7	61.3	59.8	68.2	68.5
Heavy Trucks:	68.8	68.2	59.1	60.4	68.7	68.9
Vehicle Noise:	76.5	75.6	72.5	67.7	76.3	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	262	564	1,216	2,619
CNEL:	281	606	1,306	2,814

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Muirlands Boulevard to Jeronimo Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,986 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,196 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	65.0	64.4	55.4	56.7	65.0	65.1
Vehicle Noise:	72.7	71.8	68.8	64.0	72.6	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	124	268	577	1,243
CNEL:	134	288	620	1,335

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Rockfield Boulevard to Muirlands Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	67,539	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,572	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.05	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.19	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.14	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.1	70.3	64.3	72.9	73.5
Medium Trucks:	66.7	66.0	59.7	58.1	66.6	66.8
Heavy Trucks:	67.1	66.5	57.5	58.8	67.1	67.2
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	204	439	947	2,039
CNEL:	219	472	1,017	2,191

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Jeronimo Road to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,196 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,224 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.1	63.5	54.5	55.8	64.1	64.2
Vehicle Noise:	71.8	70.9	67.9	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	502	1,082
CNEL:	116	251	540	1,163

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Toledo Way to Cromwell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,627 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,847 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.7	63.1	54.1	55.4	63.7	63.8
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	219	472	1,017
CNEL:	109	235	507	1,093

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Cromwell to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,084 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,719 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	214	462	994
CNEL:	107	230	496	1,068

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Research Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,944 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,388 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.2	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	69.4	68.5	65.4	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	344	740
CNEL:	80	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Irvine Center Drive to Research Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,673 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	798 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-20.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-24.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.5	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	64.6	63.7	60.7	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Lake Forest Drive to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,866 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	566 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-22.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-26.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.4	58.6	52.5	61.2	61.8
Medium Trucks:	55.0	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	63.1	62.2	59.2	54.4	62.9	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	284
CNEL:	30	66	141	305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Banting
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,569 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	459 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-21.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-25.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.8	56.8	55.0	48.9	57.6	58.2
Medium Trucks:	52.0	51.4	45.0	43.5	51.9	52.1
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	60.0	59.2	55.7	51.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	132
CNEL:	14	30	65	141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Pacifica to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,132 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,981 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.8	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.0	72.1	69.2	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	208	448	965
CNEL:	104	224	482	1,039

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,152	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,653	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.3	63.7	57.3	55.8	64.2	64.5
Heavy Trucks:	64.4	63.8	54.7	56.0	64.4	64.5
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	415	893
CNEL:	96	207	446	961

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: I-5 HOV Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,565 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,769 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.3	70.9	71.5
Medium Trucks:	64.5	63.9	57.5	55.9	64.4	64.6
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.7	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	919
CNEL:	99	213	459	989

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,332 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,585 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.3
Heavy Trucks:	64.3	63.7	54.6	55.9	64.2	64.4
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	878
CNEL:	94	203	438	944

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Irvine Center Drive to I-5 HOV Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,796 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,541 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.2	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	72.3	71.4	68.5	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	934

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,434 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,346 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.4	67.6	61.5	70.2	70.8
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	63.8	63.3	54.2	55.5	63.8	63.9
Vehicle Noise:	72.0	71.1	68.1	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	823
CNEL:	89	191	411	885

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,062 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,315 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.9	71.0	68.1	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	816
CNEL:	88	189	407	877

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,146 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,240 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.6	63.0	54.0	55.3	63.6	63.7
Vehicle Noise:	71.8	70.9	67.9	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	370	798
CNEL:	86	185	398	858

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Ada to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,638 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,280 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.5	61.4	70.0	70.6
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.9	70.9	68.0	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	375	807
CNEL:	87	187	403	869

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Lake Road to Creek Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,488 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,103 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.4
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	165	355	765
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Red Hill Avenue to Armstrong Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,793	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,025	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.23	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.01	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.97	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.9	71.8	70.1	64.0	72.6	73.2
Medium Trucks:	66.3	65.6	59.3	57.7	66.2	66.4
Heavy Trucks:	66.3	65.7	56.7	57.9	66.3	66.4
Vehicle Noise:	74.5	73.5	70.6	65.7	74.3	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	193	415	894	1,927
CNEL:	207	447	962	2,073

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Discovery/Herchel to Banting
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,618 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,031 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.1	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.4	70.4	67.5	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	747
CNEL:	80	173	373	804

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Lyon to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,159 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,993 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.5	53.5	54.8	63.1	63.2
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	738
CNEL:	79	171	369	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Creek Road to Lyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,764 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,961 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.0	62.4	56.0	54.4	62.9	63.1
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	71.2	70.3	67.3	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	730
CNEL:	79	169	365	785

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,548 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,510 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.63	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.61	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.56	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.9	68.1	62.0	70.7	71.3
Medium Trucks:	64.3	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	64.3	63.8	54.7	56.0	64.3	64.5
Vehicle Noise:	72.5	71.6	68.6	63.7	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	529	1,139
CNEL:	123	264	569	1,225

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Sand Canyon Avenue to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,751 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,794 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.6	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	688
CNEL:	74	160	344	740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Armstrong Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,468 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,256 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.30	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.93	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.89	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.2	71.2	68.3	63.4	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	503	1,083
CNEL:	117	251	541	1,165

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,139 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,661 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.86	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.3	61.8	52.7	54.0	62.3	62.4
Vehicle Noise:	70.5	69.6	66.6	61.7	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	141	303	654
CNEL:	70	152	326	703

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Jamboree Road to Construction Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,282 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,663 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.8
Vehicle Noise:	70.9	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	434	934
CNEL:	100	216	466	1,005

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Santa Rosa to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,019 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,559 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.94	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.6
Heavy Trucks:	62.6	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	422	909
CNEL:	98	211	454	978

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: FedEx to Discovery/Herchel

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,005 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,568 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.2	69.3	66.4	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	292	629
CNEL:	68	146	314	677

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Jeffrey Road to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,482 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,525 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	617
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Laguna Canyon Road to FedEx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,440 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,521 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.3	61.8	62.0
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	617
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Pullman Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,135	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.14	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-15.10	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-19.05	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	69.0	62.9	71.5	72.2
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.2	64.6	55.6	56.9	65.2	65.3
Vehicle Noise:	73.4	72.5	69.5	64.6	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	163	351	757	1,631
CNEL:	175	378	814	1,755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Construction Circle to Fire Station
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,462 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,348 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.3	69.4	66.5	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	859
CNEL:	92	199	429	924

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Fire Station to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,462 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,348 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.3	69.4	66.5	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	859
CNEL:	92	199	429	924

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Paseo Westpark to Santa Rosa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,055 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,315 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.82	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	70.3	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	395	851
CNEL:	92	197	425	915

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,884 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,135 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.9	69.0	66.1	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	374	806
CNEL:	87	187	403	867

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bay Tree
Road Segment: Trabuco Road to Roosevelt
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	221 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.6	53.6	51.8	45.7	54.4	55.0
Medium Trucks:	48.9	48.2	41.8	40.3	48.7	49.0
Heavy Trucks:	50.7	50.1	41.1	42.3	50.7	50.8
Vehicle Noise:	56.9	56.0	52.5	48.2	56.7	57.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	38	81
CNEL:	9	19	40	86

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Beacon
Road Segment: Ridge Valley to Benchmark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,586 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	296 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.48	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-22.72	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-26.67	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.9	55.8	54.1	48.0	56.6	57.2
Medium Trucks:	51.4	50.7	44.4	42.8	51.3	51.5
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	59.4	58.5	54.9	50.7	59.2	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	72
CNEL:	8	17	36	77

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Benchmark (LN Street)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,728 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	143 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.65	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.84	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.7	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	48.2	47.6	41.2	39.7	48.1	48.4
Heavy Trucks:	50.7	50.1	41.1	42.3	50.7	50.8
Vehicle Noise:	56.2	55.4	51.7	47.6	56.1	56.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	10	21	44
CNEL:	5	10	22	47

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bison Avenue
Road Segment: SR-73 NB Off-Ramp to California Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,685 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,119 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.3	60.6	54.2	52.7	61.2	61.4
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	550
CNEL:	59	127	274	590

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bonita Canyon Drive
Road Segment: MacArthur Boulevard to SR-73

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,850 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,545 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.65	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.59	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-19.55	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	729
CNEL:	78	169	364	783

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bonita Canyon Drive
Road Segment: Turtle Ridge to Shady Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,798 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,716 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.06	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.30	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.26	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	67.0
Medium Trucks:	60.2	59.5	53.1	51.6	60.1	60.3
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	561
CNEL:	60	130	280	602

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bonita Canyon Drive
Road Segment: Newport Coast Drive to Turtle Ridge
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,217 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,585 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.41	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.65	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.60	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.8	59.2	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.7	50.6	51.9	60.2	60.4
Vehicle Noise:	68.0	67.0	64.0	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	532
CNEL:	57	123	265	571

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bonita Canyon Drive
Road Segment: SR-73 NB Off-Ramp to Newport Coast Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,311 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,511 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.62	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.86	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.81	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	111	239	515
CNEL:	55	119	257	553

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bosque
Road Segment: Cadence to Great Park Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,852 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,060 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.06	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-17.17	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-21.13	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	57.0	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	59.4	58.8	49.8	51.1	59.4	59.5
Vehicle Noise:	65.0	64.1	60.5	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	78	168
CNEL:	18	39	83	179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bosque
Road Segment: Irvine Boulevard to Benchmark (LN Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,905 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	735 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.53	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-18.77	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-22.72	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.8	58.0	52.0	60.6	61.2
Medium Trucks:	55.4	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	57.8	57.2	48.2	49.5	57.8	57.9
Vehicle Noise:	63.4	62.5	58.9	54.7	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	132
CNEL:	14	30	65	141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bosque
Road Segment: Benchmark to Cadence
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,135 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	671 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.92	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.16	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.12	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	55.0	54.3	47.9	46.4	54.9	55.1
Heavy Trucks:	57.4	56.9	47.8	49.1	57.4	57.5
Vehicle Noise:	63.0	62.1	58.5	54.3	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	27	58	124
CNEL:	13	29	61	132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bosque
Road Segment: Great Park Boulevard to Beacon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,844 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	152 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.37	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.61	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.56	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	53.0	51.2	45.1	53.8	54.4
Medium Trucks:	48.5	47.9	41.5	39.9	48.4	48.6
Heavy Trucks:	51.0	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	56.5	55.7	52.0	47.8	56.4	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	21	46
CNEL:	5	11	23	49

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bosque
Road Segment: Beacon to S 5th Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,609 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	133 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.96	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-26.20	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-30.15	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.4	52.4	50.6	44.5	53.2	53.8
Medium Trucks:	47.9	47.3	40.9	39.4	47.8	48.0
Heavy Trucks:	50.4	49.8	40.8	42.0	50.4	50.5
Vehicle Noise:	55.9	55.1	51.4	47.2	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Jamboree Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,410 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,849 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.5	60.9	51.9	53.2	61.5	61.6
Vehicle Noise:	68.8	67.9	64.7	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	233	502
CNEL:	54	116	250	539

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Market Place to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,846 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	57.9	66.6	67.2
Medium Trucks:	60.6	59.9	53.5	52.0	60.5	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.7	67.7	64.6	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	229	494
CNEL:	53	114	246	530

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Rubicon to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,397 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,765 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	68.6	67.7	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	487
CNEL:	52	113	242	522

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: El Camino Real to Rubicon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,246 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,753 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.0
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.5	67.6	64.5	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	225	485
CNEL:	52	112	241	520

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Eastwood to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,512 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,197 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.6	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	174	376
CNEL:	40	87	187	403

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Westwood to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,258 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,094 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Culver Drive to Westwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,038 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,076 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.4	65.5	62.4	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	350
CNEL:	38	81	174	375

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Yale Avenue to Eastwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,028	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,075	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.4
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.4	65.5	62.4	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	350
CNEL:	38	81	174	375

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Cadence
Road Segment: Pusan to Chinon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,071 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	583 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.78	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.02	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-24.97	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.3	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	58.7	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.4	64.5	61.2	56.7	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	179
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Cadence
Road Segment: Bosque to Pusan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,542 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.12	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-25.31	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	57.0	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.9	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Cadence
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	405 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.37	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.60	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.56	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	55.8	55.1	48.7	47.2	55.6	55.9
Heavy Trucks:	57.1	56.5	47.4	48.7	57.1	57.2
Vehicle Noise:	63.8	62.9	59.6	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	70	150

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Cadence
Road Segment: Chinon to Merit
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,298 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	272 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.09	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-24.33	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-28.29	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.5	53.9	54.2
Heavy Trucks:	55.3	54.8	45.7	47.0	55.3	55.5
Vehicle Noise:	62.1	61.2	57.9	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	50	108
CNEL:	12	25	54	115

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Cadence
Road Segment: Merit to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,698 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.97	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-27.21	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-31.17	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.1	54.3	48.3	56.9	57.5
Medium Trucks:	51.2	50.5	44.1	42.6	51.0	51.3
Heavy Trucks:	52.5	51.9	42.8	44.1	52.4	52.6
Vehicle Noise:	59.2	58.3	55.0	50.5	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	74

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: California Avenue
Road Segment: University Drive to Academy Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,758	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,300	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.0	65.1	61.8	57.3	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	152	327
CNEL:	35	76	163	350

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: California Avenue
Road Segment: Campus Drive to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,868 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	814 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	63.9	63.0	59.8	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	111	240
CNEL:	26	55	119	257

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: California Avenue
Road Segment: Theory to Bison Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	756 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.8	52.7	61.3	62.0
Medium Trucks:	55.6	54.9	48.5	47.0	55.5	55.7
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	63.6	62.7	59.4	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	228
CNEL:	24	53	113	244

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Carlson Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,942 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,388 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.37	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-15.87	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-19.82	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.2	68.5	62.4	71.0	71.6
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	65.3	64.7	55.6	56.9	65.2	65.4
Vehicle Noise:	73.0	72.1	69.0	64.2	72.8	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	766
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: University Drive to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,687 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,697 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.4	62.8	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.3	54.2	55.5	63.8	63.9
Vehicle Noise:	71.6	70.6	67.6	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	769
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Jamboree Road to Carlson Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,504 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,517 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	63.0	53.9	55.2	63.5	63.6
Vehicle Noise:	71.3	70.3	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	735
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Stanford Court to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,642 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,280 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	688
CNEL:	74	159	343	739

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: California Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,572 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,192 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.9	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.0
Vehicle Noise:	70.7	69.7	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	311	670
CNEL:	72	155	334	720

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Berkeley Avenue to Cornell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,468 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,771 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	581
CNEL:	62	135	290	625

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Martin to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,343 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,431 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.7	60.0	53.6	52.1	60.6	60.8
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	504
CNEL:	54	117	251	542

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Culver Drive to Paseo Montoya (Turtle Rock Drive)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,048 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,324 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.4
Heavy Trucks:	60.7	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.5	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	479
CNEL:	51	111	239	515

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Von Karman Avenue to Teller Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,824 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,223 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.5	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	211	454
CNEL:	49	105	227	488

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: MacArthur Boulevard to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,285 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,179 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.8	59.2	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.7	50.6	51.9	60.2	60.4
Vehicle Noise:	68.0	67.0	64.0	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	206	443
CNEL:	48	103	221	476

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Teller Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,126 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,000 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	59.5	58.9	49.9	51.2	59.5	59.6
Vehicle Noise:	67.2	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	184	397
CNEL:	43	92	198	427

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Carlson Avenue
Road Segment: Michelson Drive to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,092 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.6	66.7	63.7	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	196	421
CNEL:	45	98	210	453

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Chinon
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,470 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	369 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.73	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-20.97	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-24.92	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.6	54.6	52.8	46.8	55.4	56.0
Medium Trucks:	50.5	49.8	43.4	41.9	50.4	50.6
Heavy Trucks:	53.7	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	58.5	57.7	53.8	49.9	58.4	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	29	63
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Creek Road
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,907 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	405 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-20.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-24.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.2	52.1	50.3	44.3	52.9	53.5
Medium Trucks:	48.0	47.3	41.0	39.4	47.9	48.1
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	56.0	55.2	51.3	47.4	55.9	56.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	72
CNEL:	8	16	35	76

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,057 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.22	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.3	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.5	56.9	65.4	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.8	69.8	64.9	73.5	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	309	665	1,432
CNEL:	154	332	715	1,541

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,960	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,947	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.1	65.4	65.5
Vehicle Noise:	73.6	72.7	69.7	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	655	1,411
CNEL:	152	327	705	1,518

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,969 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,030 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.3	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.7	69.8	64.9	73.5	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	307	662	1,427
CNEL:	154	331	713	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Scottsdale Drive to I-5 SB Off- Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,474 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,907 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.1	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.3	56.8	65.2	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.5	72.6	69.7	64.8	73.3	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	140	302	652	1,404
CNEL:	151	325	701	1,510

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: I-405 NB Off-Ramp to San Leandro

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,487 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,660 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.33	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.2
Heavy Trucks:	65.2	64.6	55.5	56.8	65.1	65.3
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	292	630	1,356
CNEL:	146	314	677	1,459

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: San Leandro to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,021 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,374 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.0	72.1	69.2	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	280	604	1,300
CNEL:	140	301	649	1,399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Harvard Avenue to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,377 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,404 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.2	69.2	64.3	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	281	606	1,306
CNEL:	141	303	652	1,405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Trabuco Road to Farwell Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,213	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,885	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.07	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.17	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.13	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.4	71.3	69.5	63.5	72.1	72.7
Medium Trucks:	65.7	65.1	58.7	57.2	65.6	65.9
Heavy Trucks:	65.8	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	73.9	73.0	70.1	65.2	73.7	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	306	659	1,420
CNEL:	153	329	709	1,527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,504 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,249 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	275	592	1,275
CNEL:	137	296	637	1,372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Main Street to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,818	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,110	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.1	68.4	62.3	70.9	71.5
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.8	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	269	579	1,247
CNEL:	134	289	623	1,342

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Warner Avenue to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,908 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,035 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.2	70.9	71.5
Medium Trucks:	64.5	63.8	57.5	55.9	64.4	64.6
Heavy Trucks:	64.5	64.0	54.9	56.2	64.5	64.6
Vehicle Noise:	72.7	71.8	68.8	63.9	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	265	572	1,232
CNEL:	133	286	615	1,325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Walnut Avenue to Scottsdale Dive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,641 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,930 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.1	64.4	64.5
Vehicle Noise:	72.6	71.7	68.7	63.8	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	562	1,211
CNEL:	130	281	605	1,302

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,548 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,923 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	260	561	1,209
CNEL:	130	280	604	1,301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Shady Canyon Drive to Palo Verde

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,474 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,184 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.5	62.9	53.9	55.2	63.5	63.6
Vehicle Noise:	71.7	70.8	67.8	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	785
CNEL:	84	182	392	844

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Deerfield Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,116 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,640 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.2	71.3	68.4	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,150
CNEL:	124	267	574	1,237

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Sandburg Way to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,646	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	64.0	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	535	1,152
CNEL:	124	267	575	1,239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,037 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,551 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.0	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.1	71.2	68.3	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	525	1,131
CNEL:	122	262	565	1,217

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Palo Verde to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,255	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,001	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	344	740
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: University Drive to Sandburg Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,878	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,372	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.2	63.6	63.8
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	236	507	1,093
CNEL:	118	253	546	1,176

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Farwell Avenue to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,710 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,854 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.04	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.20	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.16	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.4	71.1	71.7
Medium Trucks:	64.7	64.0	57.7	56.1	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	563	1,212
CNEL:	130	281	605	1,304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Campus Drive to High School

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,825	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,286	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.8	70.9	67.9	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	231	499	1,074
CNEL:	116	249	536	1,156

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: High School to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,094	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,225	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	53.9	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,061
CNEL:	114	246	530	1,142

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Bryan Avenue to Florence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,153	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,065	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.0	69.7	70.3
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.3	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	221	476	1,026
CNEL:	110	238	512	1,104

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Portola Parkway to Settlers

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,169	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,829	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.7	62.1	55.7	54.1	62.6	62.8
Heavy Trucks:	62.8	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	150	324	697
CNEL:	75	162	348	750

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Florence to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,281 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,993 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	469	1,010
CNEL:	109	234	504	1,086

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Irvine Boulevard to Viewpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,782	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,292	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.2	69.3	66.4	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	182	392	845
CNEL:	91	196	422	909

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Viewpark to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,857 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,216 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.6	68.3	68.9
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	61.9	61.4	52.3	53.6	61.9	62.0
Vehicle Noise:	70.1	69.2	66.2	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	383	826
CNEL:	89	191	413	889

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Settlers to Furrow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,930 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	984 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.0	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	68.2	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	214	461
CNEL:	50	107	230	496

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Meadowood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,384 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,599 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	309	665
CNEL:	72	154	332	715

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Discovery Drive
Road Segment: Irvine Center Drive to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,332 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,100 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.5	57.9	48.9	50.2	58.5	58.6
Vehicle Noise:	65.2	64.4	61.1	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	68	146	314

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Discovery Drive
Road Segment: Waterworks Way to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,636 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	712 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.3	54.7	48.3	46.7	55.2	55.4
Heavy Trucks:	56.6	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	63.4	62.5	59.2	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	23	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: East Yale Loop
Road Segment: Alton Parkway to Witherspoon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,590 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,121 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.3	64.4	61.2	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	68	147	318

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: East Yale Loop
Road Segment: Osborn Street to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,938 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,067 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.0	60.3	54.2	62.8	63.5
Medium Trucks:	57.1	56.4	50.0	48.5	57.0	57.2
Heavy Trucks:	58.4	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	65.1	64.2	60.9	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	133	287
CNEL:	31	66	143	307

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: East Yale Loop
Road Segment: Yale Avenue to Springbrook South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,895 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	981 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.7	56.0	49.7	48.1	56.6	56.8
Heavy Trucks:	58.0	57.4	48.4	49.7	58.0	58.1
Vehicle Noise:	64.8	63.9	60.6	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	126	271
CNEL:	29	63	135	291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: East Yale Loop
Road Segment: Springbrook North to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,574 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	707 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	60.3	58.5	52.4	61.1	61.7
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	56.6	56.0	47.0	48.2	56.6	56.7
Vehicle Noise:	63.3	62.4	59.2	54.6	63.1	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	218
CNEL:	23	50	108	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: East Yale Loop
Road Segment: Woodspring to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,199 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	594 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	54.5	53.9	47.5	46.0	54.4	54.7
Heavy Trucks:	55.9	55.3	46.2	47.5	55.8	56.0
Vehicle Noise:	62.6	61.7	58.4	53.8	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	194
CNEL:	21	45	97	208

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: East Yale Loop
Road Segment: Barranca Parkway to Eastshore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,524 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	538 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.1	55.4	55.5
Vehicle Noise:	62.1	61.2	58.0	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	182
CNEL:	19	42	90	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Eastwood
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	267 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.59	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.83	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.78	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.3	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	52.6	51.9	45.5	44.0	52.5	52.7
Heavy Trucks:	54.4	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	60.6	59.7	56.3	51.9	60.4	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	18	40	86
CNEL:	9	20	43	92

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Eastwood
Road Segment: Columbus to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,011 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	166 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.66	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-25.90	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-29.85	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.3	55.2	53.4	47.4	56.0	56.6
Medium Trucks:	50.5	49.8	43.5	41.9	50.4	50.6
Heavy Trucks:	52.3	51.8	42.7	44.0	52.3	52.5
Vehicle Noise:	58.5	57.6	54.2	49.8	58.3	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	62
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: El Camino Real
Road Segment: Jamboree Road to Alliance (SR-261 Bridge)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,398 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,600 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	66.9	66.0	62.7	58.2	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	376
CNEL:	40	87	187	403

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: El Camino Real North
Road Segment: El Camino Real to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,553 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	541 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.2	61.3	58.0	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	182
CNEL:	20	42	91	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Fairbanks
Road Segment: Alton Parkway to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,614 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,536 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.42	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-16.81	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-20.77	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	69.6	68.7	65.4	60.9	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Fairbanks
Road Segment: Irvine Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	781 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.51	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.75	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.71	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	66.6	65.7	62.5	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	218
CNEL:	23	50	108	233

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Fairchild Road
Road Segment: MacArthur Boulevard to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,081 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	584 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	55.9	46.9	48.2	56.5	56.6
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Gateway Boulevard
Road Segment: Alton Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,010 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-15.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-19.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.8	59.7	58.0	51.9	60.5	61.1
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.8	57.2	48.1	49.4	57.7	57.9
Vehicle Noise:	63.3	62.4	58.8	54.6	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	217
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Gateway Boulevard
Road Segment: Spectrum Center Drive (Fortune Drive) to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,678 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,046 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.4	56.7	50.6	59.2	59.9
Medium Trucks:	54.0	53.3	47.0	45.4	53.9	54.1
Heavy Trucks:	56.5	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	62.0	61.2	57.5	53.3	61.8	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	179
CNEL:	19	41	88	190

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Gateway Boulevard
Road Segment: Irvine Center Drive to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,270 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	517 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-3.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-20.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-24.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.5	55.4	53.6	47.6	56.2	56.8
Medium Trucks:	51.0	50.3	43.9	42.4	50.8	51.1
Heavy Trucks:	53.4	52.8	43.8	45.1	53.4	53.5
Vehicle Noise:	59.0	58.1	54.5	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	112
CNEL:	12	26	55	119

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Great Park Boulevard
Road Segment: Sand Canyon to Ridge Valley

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,507 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,754 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.34	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.90	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.86	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.8	63.7	72.3	72.9
Medium Trucks:	66.2	65.5	59.1	57.6	66.0	66.3
Heavy Trucks:	66.6	66.0	57.0	58.2	66.6	66.7
Vehicle Noise:	74.3	73.4	70.3	65.5	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	522	1,125
CNEL:	121	260	561	1,208

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Great Park Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,162 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,911 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.1	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	284	612
CNEL:	66	142	305	657

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Great Park Boulevard (EB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,824 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	728 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.79	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.03	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-24.98	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	60.0	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	139	300
CNEL:	32	69	150	322

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Great Park Boulevard (WB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,648 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	631 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.41	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.65	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.60	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.5	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	273
CNEL:	29	63	136	293

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: University Drive to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,851 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,885 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.80	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-16.44	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-20.39	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.1	61.0	69.6	70.2
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.5	63.9	54.9	56.1	64.5	64.6
Vehicle Noise:	71.7	70.8	67.7	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	102	221	475
CNEL:	51	110	237	510

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Michelson Drive to Coronado
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,028 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,560 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.2	69.3	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	290	624
CNEL:	67	144	311	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: San Marino to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,121 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,402 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.2	54.8	53.2	61.7	61.9
Heavy Trucks:	62.7	62.1	53.0	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.8	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	598
CNEL:	64	138	298	642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Coronado to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,811 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,377 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.9	69.0	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	276	594
CNEL:	64	137	296	637

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: San Carlo to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,438 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,346 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.7	61.1	54.7	53.1	61.6	61.8
Heavy Trucks:	62.6	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	69.8	68.9	65.7	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	589
CNEL:	63	136	293	631

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Main Street to San Carlo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,916 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,303 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.7	68.8	65.7	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	581
CNEL:	62	134	290	624

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Alton Parkway to San Leon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	239	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: San Juan to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	239	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: San Leon to San Juan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,663 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.1	60.5	51.4	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,757 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,300 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.3	62.6	56.5	65.1	65.7
Medium Trucks:	59.2	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.2	66.3	63.2	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	184	397
CNEL:	43	92	198	426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Deerfield Avenue to Poplar Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,478 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,277 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.6	59.9	60.0
Vehicle Noise:	67.2	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	182	392
CNEL:	42	91	195	421

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,135 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,414 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	50.9	59.4	59.6
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	195	420
CNEL:	45	97	209	450

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Bridge Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,144 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,414 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	50.9	59.4	59.6
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	195	420
CNEL:	45	97	209	451

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Paseo Westpark to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	418
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Poplar Street to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,653 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,126 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.43	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-18.67	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-22.63	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	68.6	67.7	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	390
CNEL:	42	90	194	418

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: California Avenue to Berkeley Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,232 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,257 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.9	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	416

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Culver Drive to California Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,994 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,237 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	58.9	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.0	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	412

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Berkeley to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,544 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,200 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	376
CNEL:	40	87	187	404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Warner Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,236 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,092 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.2	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Hicks Canyon Drive
Road Segment: Delamesa to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,210 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.25	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	75.75	-25.49	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	81.57	-29.45	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	50.0	49.3	42.9	41.4	49.9	50.1
Heavy Trucks:	51.8	51.2	42.2	43.5	51.8	51.9
Vehicle Noise:	58.0	57.1	53.7	49.3	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Hornet (5th St)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,346 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	276 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.99	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-22.23	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-26.18	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.4	53.3	51.6	45.5	54.1	54.7
Medium Trucks:	49.2	48.5	42.2	40.6	49.1	49.3
Heavy Trucks:	52.4	51.8	42.8	44.1	52.4	52.5
Vehicle Noise:	57.3	56.4	52.5	48.6	57.1	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	52
CNEL:	6	12	26	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Hubble
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,322 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	192 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.58	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.81	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.77	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.8	51.7	50.0	43.9	52.5	53.1
Medium Trucks:	47.6	47.0	40.6	39.1	47.5	47.7
Heavy Trucks:	50.8	50.3	41.2	42.5	50.8	50.9
Vehicle Noise:	55.7	54.8	50.9	47.0	55.5	55.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	41
CNEL:	4	9	20	43

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: SR-133 NB Off- Ramp to Ridge Valley (O Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,249 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,403 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.8	63.1	56.7	55.2	63.7	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	72.0	71.0	68.1	63.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	237	510	1,100
CNEL:	118	255	549	1,183

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: SR-133 SB Off-Ramp to SR-133 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,804 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,366 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.4	70.1	70.7
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	235	507	1,092
CNEL:	117	253	545	1,175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Sand Canyon to SR-133 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,645 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,683 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.84	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.40	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.35	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.2	70.9	71.5
Medium Trucks:	64.5	63.9	57.5	55.9	64.4	64.6
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.7	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	118	253	546	1,176
CNEL:	127	273	587	1,265

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Merit to Alton
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.3	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,001
CNEL:	108	232	500	1,077

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Journey to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,381 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,919 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.83	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.5	53.5	54.8	63.1	63.2
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	214	461	993
CNEL:	107	230	496	1,068

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,010 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,641 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	431	929
CNEL:	100	215	464	999

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Pusan Way to Chinon (B Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,080 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Palo Lado to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,776 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,704 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.6	60.5	69.1	69.7
Medium Trucks:	62.8	62.1	55.7	54.2	62.7	62.9
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	71.0	70.0	67.1	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	203	438	944
CNEL:	102	219	471	1,015

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Culver Drive to Palo Lado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,679 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.7	62.1	55.7	54.2	62.6	62.8
Heavy Trucks:	62.8	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	435	938
CNEL:	101	217	468	1,009

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,599 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	919
CNEL:	99	213	459	989

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Old Myford Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,742 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,619 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.36	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.6	62.0	55.6	54.1	62.5	62.7
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	199	429	924
CNEL:	99	214	461	994

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Bosque (LY Street) to Modjeska

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,088 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,647 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	432	930
CNEL:	100	216	465	1,001

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Jamboree Road to Old Myford Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,090	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,565	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Market Place to SR-261 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,908 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,550 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.5	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	70.7	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	907
CNEL:	98	210	453	976

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Jeffrey Road to Groveland

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,376 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,506 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	193	416	897
CNEL:	96	208	448	965

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Bake Parkway to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,916	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,303	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	394	848
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Independence Way (The Groves)/The Groves to JeffreyRoad
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,006 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,393 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.23	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.6	53.9	62.3	62.4
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	404	870
CNEL:	94	202	434	936

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Chinon (B Street) to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: SR-261 NB Off-Ramp to Central Park

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,240	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,330	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.5	62.0	62.2
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	397	854
CNEL:	92	198	427	919

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Pueblo Norte to Independence Way (The Groves)/ Parkwood
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,469 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,266 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	389	839
CNEL:	90	194	419	902

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Yale Avenue to Pueblo Norte

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,285 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,251 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	54.9	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	388	835
CNEL:	90	194	417	898

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Modjeska to Pusan Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,148 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Central Park Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,480	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,020	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	60.9	51.9	53.2	61.5	61.6
Vehicle Noise:	69.7	68.8	65.8	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	361	777
CNEL:	84	180	388	836

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Parker to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,659 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,869 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	738
CNEL:	79	171	368	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Alton Parkway to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,955 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,481 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.3	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	632
CNEL:	68	146	315	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,889 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,363 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.99	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.25	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.20	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.3	63.6	57.2	55.7	64.2	64.4
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.4	71.5	68.4	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	521	1,122
CNEL:	121	260	560	1,205

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Orange Tree to Valley Oak Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,786 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,107 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,062
CNEL:	114	246	530	1,141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: I-405 SB Off-Ramp to Research

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,340 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,906 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.51	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.73	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.69	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	484	1,042
CNEL:	112	241	520	1,120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Irvine Valley College to Orange Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,817 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,027 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.64	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.60	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.9	63.3	54.3	55.6	63.9	64.0
Vehicle Noise:	71.6	70.7	67.7	62.9	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	487	1,049
CNEL:	113	243	523	1,127

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Fontaine Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,104 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,804 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.3	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.4	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	217	469	1,009
CNEL:	108	234	503	1,084

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Culver Drive to Deerwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,624 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,764 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.3	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,002
CNEL:	108	232	500	1,077

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Deerwood to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,180 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,727 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	70.0
Medium Trucks:	63.2	62.5	56.1	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	215	462	996
CNEL:	107	231	497	1,070

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Yale Avenue to Fontaine Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,578 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,760 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.3	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,002
CNEL:	108	232	500	1,076

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Jeffrey Road to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,489 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,670 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.2	63.5	63.6
Vehicle Noise:	71.2	70.3	67.3	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	212	458	986
CNEL:	106	228	492	1,059

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Alton Parkway to Spectrum

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,406 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,499 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	206	443	955
CNEL:	103	221	476	1,026

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Spectrum to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,458 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.98	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.8	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.0	70.1	67.0	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	204	440	947
CNEL:	102	219	472	1,018

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Hearthstone to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,524 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,261 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	454	979

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Charter to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,843 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,205 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.65	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.59	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	97	208	449	967

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Jamboree Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,809 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	396	853
CNEL:	92	197	425	916

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Pacifica to Entertainment (Enterprise/Fortune)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,722 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,030 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	867
CNEL:	93	201	433	932

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,034 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.78	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	933

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Harvard Avenue to Hearthstone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,946 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,801 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.0
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.1	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	823
CNEL:	88	191	410	884

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Research to Hubble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,767 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,456 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	754
CNEL:	81	175	376	810

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Barranca Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,213 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,658 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.84	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	369	795
CNEL:	85	184	396	854

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,382 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,424 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	80	173	373	803

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Discovery to Charter

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,850	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,710	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	173	374	805
CNEL:	87	186	402	865

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,974	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,308	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.22	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.3	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	156	336	723
CNEL:	78	167	361	777

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Muller to Tesla
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,678 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,201 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	325	701
CNEL:	75	162	350	753

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Sand Canyon Avenue to Odyssey

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,285 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,251 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	330	712
CNEL:	76	165	355	764

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Tesla to Scientific Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,358 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,010 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	306	660
CNEL:	71	153	329	709

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Scientific Way to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,917 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.42	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.82	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.78	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	639
CNEL:	69	148	319	687

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Gateway Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,879 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,970 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.54	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.70	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.66	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	68.5	67.6	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	651
CNEL:	70	151	325	699

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Laguna Canyon Road to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,024 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,982 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.63	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.8	53.4	51.9	60.3	60.5
Heavy Trucks:	60.8	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.6	67.6	64.6	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	141	303	654
CNEL:	70	151	326	702

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Odyssey to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,977 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,978 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.8	53.4	51.8	60.3	60.5
Heavy Trucks:	60.8	60.3	51.2	52.5	60.8	60.9
Vehicle Noise:	68.6	67.6	64.6	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	141	303	653
CNEL:	70	151	326	701

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive (Edinger)
Road Segment: Redhill Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,543 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,262 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	454	979

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: I-5 SB Off-Ramp to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,825 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,761 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.1	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	73.3	70.4	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	156	337	725	1,562
CNEL:	168	362	780	1,681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,976 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,763 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.48	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-11.76	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-15.72	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.8	72.7	70.9	64.9	73.5	74.1
Medium Trucks:	67.2	66.5	60.1	58.6	67.0	67.3
Heavy Trucks:	67.2	66.6	57.6	58.8	67.2	67.3
Vehicle Noise:	75.4	74.4	71.5	66.6	75.1	75.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	176	380	818	1,763
CNEL:	190	409	881	1,897

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Walnut Avenue to Michelle Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,442 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,986 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.4	64.8	58.4	56.8	65.3	65.5
Heavy Trucks:	65.5	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.6	72.7	69.7	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	306	659	1,419
CNEL:	153	329	709	1,526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: I-405 NB Off-Ramp to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,891 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,756 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.47	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.76	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-15.72	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.1	74.1	72.3	66.3	74.9	75.5
Medium Trucks:	68.5	67.9	61.5	60.0	68.4	68.7
Heavy Trucks:	68.6	68.0	58.9	60.2	68.5	68.7
Vehicle Noise:	76.7	75.8	72.8	68.0	76.5	77.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	272	586	1,263	2,721
CNEL:	293	631	1,359	2,928

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Michelle Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,654 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.5	65.0	65.2
Heavy Trucks:	65.2	64.6	55.5	56.8	65.1	65.3
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	292	629	1,355
CNEL:	146	314	677	1,458

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Main Street to Kelvin Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	70,975	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,855	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.85	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.39	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.34	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.5	73.5	71.7	65.6	74.3	74.9
Medium Trucks:	67.9	67.2	60.9	59.3	67.8	68.0
Heavy Trucks:	67.9	67.4	58.3	59.6	67.9	68.1
Vehicle Noise:	76.1	75.2	72.2	67.3	75.9	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	247	533	1,148	2,474
CNEL:	266	573	1,235	2,661

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	88,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,301 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	130 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	88.792
Medium Trucks:	88.747
Heavy Trucks:	88.792

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.81	-3.84	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.43	-3.84	-1.20	*-4.96*	0.000	0.000
Heavy Trucks:	86.40	-15.38	-3.84	-1.20	*-5.14*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	65.9	65.3	58.9	57.4	65.8	66.1
Heavy Trucks:	66.0	65.4	56.3	57.6	66.0	66.1
Vehicle Noise:	74.1	73.2	70.2	65.4	73.9	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	201	433	932	2,009
CNEL:	216	466	1,003	2,161

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Kelvin Avenue to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,776	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,426	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.52	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.72	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.67	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.2	73.1	71.4	65.3	73.9	74.5
Medium Trucks:	67.6	66.9	60.6	59.0	67.5	67.7
Heavy Trucks:	67.6	67.0	58.0	59.2	67.6	67.7
Vehicle Noise:	75.8	74.8	71.9	67.0	75.6	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	235	507	1,091	2,351
CNEL:	253	545	1,174	2,530

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	64,955 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,359 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.47	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.77	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.73	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.1	73.1	71.3	65.3	73.9	74.5
Medium Trucks:	67.5	66.9	60.5	59.0	67.4	67.6
Heavy Trucks:	67.6	67.0	57.9	59.2	67.5	67.7
Vehicle Noise:	75.7	74.8	71.8	67.0	75.5	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	233	502	1,082	2,332
CNEL:	251	540	1,164	2,509

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Birch Street to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,612	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,093	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.1	68.4	62.3	70.9	71.5
Medium Trucks:	64.6	63.9	57.5	56.0	64.5	64.7
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.8	71.8	68.9	64.0	72.6	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	124	268	577	1,244
CNEL:	134	288	621	1,338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Dupont Drive to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,614 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,588 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.79	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.44	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.40	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.3	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.4	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.7	69.8	64.9	73.5	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	293	632	1,361
CNEL:	146	316	680	1,465

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Alton Parkway to Beckman

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,192	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,883	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.06	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.17	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.13	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.7	72.7	70.9	64.9	73.5	74.1
Medium Trucks:	67.1	66.5	60.1	58.5	67.0	67.2
Heavy Trucks:	67.2	66.6	57.5	58.8	67.1	67.3
Vehicle Noise:	75.3	74.4	71.4	66.6	75.1	75.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	219	472	1,017	2,192
CNEL:	236	508	1,094	2,358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Fairchild Road to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,815	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,192	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.40	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.84	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.79	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.6	68.9	62.8	71.4	72.0
Medium Trucks:	65.1	64.4	58.1	56.5	65.0	65.2
Heavy Trucks:	65.1	64.5	55.5	56.7	65.1	65.2
Vehicle Noise:	73.3	72.3	69.4	64.5	73.1	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	276	595	1,282
CNEL:	138	297	640	1,379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Beckman to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,823	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,523	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.4	72.3	70.6	64.5	73.1	73.7
Medium Trucks:	66.8	66.1	59.8	58.2	66.7	66.9
Heavy Trucks:	66.8	66.2	57.2	58.5	66.8	66.9
Vehicle Noise:	75.0	74.1	71.1	66.2	74.8	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	208	449	967	2,083
CNEL:	224	483	1,040	2,240

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: I-5 NB Off-Ramp to El Camino Real
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,710 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,349 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	66.0	59.6	58.0	66.5	66.7
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	942	2,029
CNEL:	218	470	1,013	2,182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Campus Drive to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,420	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,830	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.01	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.23	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.19	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.2	68.5	62.4	71.0	71.6
Medium Trucks:	64.7	64.0	57.7	56.1	64.6	64.8
Heavy Trucks:	64.7	64.1	55.1	56.4	64.7	64.8
Vehicle Noise:	72.9	72.0	69.0	64.1	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	260	560	1,207
CNEL:	130	280	603	1,298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: El Camino Real to West Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,138	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,219	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.43	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.81	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.76	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	66.5	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.7	73.8	70.8	65.9	74.5	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	428	923	1,988
CNEL:	214	461	993	2,139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: West Drive to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,091	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,215	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.43	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.81	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.77	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	66.5	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.7	73.7	70.8	65.9	74.5	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	428	922	1,987
CNEL:	214	461	992	2,138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Bryan Avenue to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,458	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,915	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.11	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.13	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.09	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	69.9	63.9	72.5	73.1
Medium Trucks:	66.2	65.5	59.1	57.6	66.1	66.3
Heavy Trucks:	66.2	65.6	56.6	57.8	66.2	66.3
Vehicle Noise:	74.4	73.4	70.5	65.6	74.2	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	189	408	878	1,892
CNEL:	204	438	945	2,035

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Koll Center to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,123	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,558	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.69	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.55	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.51	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.3	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	533	1,149
CNEL:	124	266	574	1,236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: MacArthur Boulevard to Koll Center

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,776	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,529	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.65	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.58	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.54	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.3	63.7	57.3	55.8	64.2	64.5
Heavy Trucks:	64.4	63.8	54.7	56.0	64.4	64.5
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	246	530	1,143
CNEL:	123	265	571	1,230

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Irvine Boulevard to Portola Pakway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,015 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,394 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.23	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	404	870
CNEL:	94	202	434	936

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Warner Avenue to Edinger Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	87,509 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,219 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.76	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-11.48	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-15.43	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	77.3	76.2	74.5	68.4	77.0	77.7
Medium Trucks:	70.7	70.0	63.7	62.1	70.6	70.8
Heavy Trucks:	70.7	70.1	61.1	62.4	70.7	70.8
Vehicle Noise:	78.9	78.0	75.0	70.1	78.7	79.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	243	523	1,127	2,428
CNEL:	261	563	1,212	2,612

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	72,128	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,951	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	96	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	64.0	feet
Centerline Dist. to Observer:	64.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.92	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.32	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.27	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.5	75.4	73.6	67.6	76.2	76.8
Medium Trucks:	69.9	69.2	62.8	61.3	69.7	70.0
Heavy Trucks:	69.9	69.3	60.3	61.5	69.9	70.0
Vehicle Noise:	78.0	77.1	74.2	69.3	77.8	78.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	213	460	991	2,134
CNEL:	230	495	1,066	2,296

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Edinger Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,499 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,486 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.57	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.67	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.62	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.1	75.1	73.3	67.2	75.9	76.5
Medium Trucks:	69.5	68.8	62.5	60.9	69.4	69.6
Heavy Trucks:	69.5	69.0	59.9	61.2	69.5	69.6
Vehicle Noise:	77.7	76.8	73.8	68.9	77.5	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	436	938	2,022
CNEL:	218	469	1,010	2,175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Walnut Avenue to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,523	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,663	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	63.1	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.1	70.2	67.1	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	971
CNEL:	104	224	483	1,041

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: I-5 NB Off-Ramp to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,296 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,222 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.23	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.01	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-15.97	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	64.0	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.0	71.1	68.0	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,062
CNEL:	114	245	529	1,139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Poplar (Meadows) to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,868 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,197 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.4	62.9	53.8	55.1	63.4	63.5
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	420	905
CNEL:	97	209	450	970

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,717 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,184 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.4	62.8	53.8	55.1	63.4	63.5
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	419	903
CNEL:	97	209	450	969

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Irvine Center Drive to Poplar (Meadows)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,682 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,016 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.2	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	70.5	69.6	66.4	61.8	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	408	879
CNEL:	94	203	437	942

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: I-405 NB Off-Ramp to Quail Creek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,815 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,192 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.4	62.8	53.8	55.1	63.4	63.5
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	420	904
CNEL:	97	209	450	970

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Barranca Parkway to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,023 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,962 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	404	871
CNEL:	93	201	434	934

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Quail Creek to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,969 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,040 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.13	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.5
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	409	882
CNEL:	95	204	439	946

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Irvine Valley College to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,528 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,756 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	63.0	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.2	69.3	66.1	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	840
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Trabuco Road to Hideaway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,721 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,112 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.98	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.2
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	741
CNEL:	80	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Hideaway to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,668 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,108 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.22	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	740
CNEL:	79	171	369	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Roosevelt to Grove

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,046 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,386 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.35	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.89	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.85	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.2	69.2	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	171	369	795
CNEL:	85	184	396	853

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Grove to Trabuco Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,896 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,209 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.11	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.13	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.08	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	767
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,845 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,380 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.2
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	288	620
CNEL:	66	143	309	665

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Encore to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,420	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,272	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.3	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.5	64.6	61.4	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	189	408
CNEL:	44	94	203	438

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Irvine Boulevard to Encore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,436 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,191 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.5	57.0	57.2
Heavy Trucks:	58.0	57.4	48.3	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	391
CNEL:	42	90	195	419

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeronimo Road
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,085 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	667 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	56.3	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	64.3	63.4	60.3	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	55	118	255
CNEL:	27	59	127	273

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeronimo Road
Road Segment: Alton Parkway to Goodyear

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,560 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	624 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.4	53.3	62.0	62.6
Medium Trucks:	56.0	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.0	63.1	60.0	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	261

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Old Laguna Canyon Road to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,519 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,333 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.69	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.4	68.6	62.5	71.2	71.8
Medium Trucks:	64.8	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	64.8	64.3	55.2	56.5	64.8	65.0
Vehicle Noise:	73.0	72.1	69.1	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	129	278	600	1,292
CNEL:	139	299	645	1,390

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Laguna Canyon Freeway to Quail Hill Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,624 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,372 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.7	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	575
CNEL:	62	133	287	619

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Discovery to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,112 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,247 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	69.2	68.3	65.4	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	251	540
CNEL:	58	125	270	581

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: I-405 Overcrossing to Pasteur

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,544 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	705 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.93	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.17	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.12	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.0	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	67.7	66.8	63.7	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	340
CNEL:	36	79	169	365

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Irvine Center Drive to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,381 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,104 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.6
Heavy Trucks:	60.6	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	54	115	249	536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Quail Hill Parkway to I-405 Overcrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,544 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	705 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.93	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.17	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.12	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.0	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	67.7	66.8	63.7	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	340
CNEL:	36	79	169	365

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Pasteur to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,491 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	701 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.6	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	66.7	65.8	62.9	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	368
CNEL:	40	85	184	396

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Waterworks to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,487 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	783 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.1	58.5	49.4	50.7	59.1	59.2
Vehicle Noise:	67.2	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	396
CNEL:	43	92	198	426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,272 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	600 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	57.9	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	66.1	65.1	62.2	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	332
CNEL:	36	77	166	357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	581 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	57.7	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	57.8	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	65.9	65.0	62.0	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	151	324
CNEL:	35	75	162	349

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Lake Forest Drive
Road Segment: Hidden Canyon to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,642 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,538 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	529
CNEL:	57	122	264	569

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Lake Forest Drive
Road Segment: Bake Parkway to Hidden Canyon (Romano)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,524 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	69.1	68.2	65.1	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	244	526
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Lake Forest Drive
Road Segment: Tesla to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,734 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,133 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-19.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-23.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	58.4	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	66.1	65.2	62.2	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	450
CNEL:	48	104	225	484

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Lake Road
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,179 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	510 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.32	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	70.80	-19.56	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	77.97	-23.52	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.1	55.1	53.3	47.2	55.9	56.5
Medium Trucks:	51.0	50.3	43.9	42.4	50.8	51.1
Heavy Trucks:	54.2	53.6	44.5	45.8	54.1	54.3
Vehicle Noise:	59.0	58.2	54.3	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	44	96

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Lynx
Road Segment: Irvine Boulevard to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,254 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	103 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-9.25	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-26.49	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-30.45	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.1	49.1	47.3	41.2	49.9	50.5
Medium Trucks:	45.0	44.3	37.9	36.4	44.8	45.1
Heavy Trucks:	48.2	47.6	38.5	39.8	48.1	48.3
Vehicle Noise:	53.0	52.2	48.3	44.3	52.8	53.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	12	27
CNEL:	3	6	13	29

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: I-405 SB Off-Ramp to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,860	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,103	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.88	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.36	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.32	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.0	73.9	72.2	66.1	74.7	75.3
Medium Trucks:	68.2	67.6	61.2	59.6	68.1	68.3
Heavy Trucks:	67.9	67.3	58.3	59.5	67.9	68.0
Vehicle Noise:	76.5	75.5	72.7	67.7	76.3	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	262	563	1,214	2,615
CNEL:	282	607	1,308	2,817

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Main Street to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,009 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.80	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.44	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.9	73.8	72.1	66.0	74.6	75.3
Medium Trucks:	68.1	67.5	61.1	59.6	68.0	68.3
Heavy Trucks:	67.8	67.2	58.2	59.4	67.8	67.9
Vehicle Noise:	76.4	75.5	72.6	67.6	76.2	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	258	557	1,199	2,583
CNEL:	278	599	1,291	2,782

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: I-405 NB Off-Ramp and I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,832 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,936 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.50	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.8	73.8	72.0	66.0	74.6	75.2
Medium Trucks:	68.1	67.4	61.0	59.5	68.0	68.2
Heavy Trucks:	67.8	67.2	58.1	59.4	67.7	67.9
Vehicle Noise:	76.3	75.4	72.5	67.6	76.1	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	256	551	1,187	2,558
CNEL:	276	594	1,279	2,755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Jamboree Road to Fairchild Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,283 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.6
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	357	768
CNEL:	82	178	382	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Fairchild Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,349 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,246 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	69.6	68.7	65.5	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	762
CNEL:	82	176	380	818

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Fitch to Red Hill Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,207 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,482 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.47	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.77	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.73	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	63.0	62.5	53.4	54.7	63.0	63.1
Vehicle Noise:	70.3	69.4	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	810
CNEL:	87	187	403	869

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Michelson Drive to Douglas

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,005	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,713	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.75	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.49	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.45	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	71.9	71.0	67.9	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	281	606	1,306
CNEL:	140	302	650	1,401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Douglas to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,388	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,662	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.69	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.55	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.51	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	64.6	64.0	55.0	56.3	64.6	64.7
Vehicle Noise:	71.9	71.0	67.8	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	129	279	601	1,294
CNEL:	139	299	644	1,388

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Skypark to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,157 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,735 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.42	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.82	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.77	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	320	690
CNEL:	74	159	343	740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Redhill Avenue to Skypark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,891 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,301 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.8	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	68.1	67.2	64.0	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	281	606
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Birch Street to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,778 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,714 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	66.8	65.9	62.7	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	53	115	248	534

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Campus Drive to Birch Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,178	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,912	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.86	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-16.37	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-20.33	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	61.0	60.3	53.9	52.4	60.9	61.1
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.0	68.1	65.0	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	389	839
CNEL:	90	194	418	900

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Gillette Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,614 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,763 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.80	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.43	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.39	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.6
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.6	69.7	66.6	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	396	853
CNEL:	92	197	425	915

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: MacArthur Boulevard to Mercantile

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,827 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,286 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.22	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.02	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	362	780
CNEL:	84	180	388	836

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Executive Park to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,554 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,356 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.42	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.9	60.3	51.3	52.6	60.9	61.0
Vehicle Noise:	68.2	67.3	64.1	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	616
CNEL:	66	142	307	660

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Von Karman Avenue to Cartwright

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,744 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,371 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.2	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	618
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: McDurmott to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,403 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,178 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.7	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	584
CNEL:	63	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Red Hill Avenue to Executive Circle

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,874 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,135 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.7	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	268	576
CNEL:	62	133	287	618

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Jamboree Road to Union

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,963 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,059 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.01	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	563
CNEL:	60	130	280	604

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,634 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,207 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	378
CNEL:	41	87	188	405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Siglo to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,271 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,002 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.7	65.4	66.0
Medium Trucks:	59.4	58.7	52.3	50.8	59.3	59.5
Heavy Trucks:	60.2	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	67.5	66.6	63.4	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	256	552
CNEL:	59	128	275	593

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Veneto to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,292 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,922 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.0	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.3	66.4	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	537
CNEL:	58	124	268	577

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Paseo Westpark to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	991 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.2	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Harvard Avenue to San Mateo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,948	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	986	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	330
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Sand Canyon Avenue to Ridge Valley (O Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,895 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,374 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.84	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	77.72	-13.40	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	82.99	-17.35	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	64.0	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	65.3	64.8	55.7	57.0	65.3	65.5
Vehicle Noise:	72.1	71.2	67.9	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	668
CNEL:	71	154	332	715

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Alton Parkway to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,723 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.5	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	69.2	68.3	65.0	60.5	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	57	124	266	574

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Lynx to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,066 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,645 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	61.0	60.4	54.0	52.4	60.9	61.1
Heavy Trucks:	62.3	61.8	52.7	54.0	62.3	62.4
Vehicle Noise:	69.1	68.2	64.9	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	244	526
CNEL:	56	121	261	563

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: County Access to Treble
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,373 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,176 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	60.2	59.5	53.1	51.6	60.1	60.3
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	68.2	67.3	64.0	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	214	461
CNEL:	49	106	229	494

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Ridge Valley (O Street) to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,442 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,099 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	68.1	67.2	63.9	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	451
CNEL:	48	104	224	482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Skyhawk to County Access

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,450 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,687 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.1	66.2	62.9	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	389
CNEL:	42	90	194	417

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,902 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,477 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	177	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Treble to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,855 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,391 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.2	57.6	51.2	49.7	58.1	58.3
Heavy Trucks:	59.5	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	66.3	65.4	62.1	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: McGaw Avenue
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,522 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,198 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	56.2	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	58.1	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	64.2	63.3	59.9	55.5	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	250
CNEL:	27	58	124	267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: McGaw Avenue
Road Segment: Red Hill Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,147 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,167 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	56.1	55.4	49.1	47.5	56.0	56.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.0
Vehicle Noise:	64.1	63.2	59.8	55.4	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	114	246
CNEL:	26	57	122	262

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: McGaw Avenue
Road Segment: Daimler to Red Hill Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,147 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	755 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.0	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	62.2	61.3	57.9	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	85	184
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: McGaw Avenue
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,734 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	391 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-22.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-26.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.1	56.1	54.3	48.2	56.9	57.5
Medium Trucks:	51.3	50.7	44.3	42.8	51.2	51.4
Heavy Trucks:	53.2	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	59.3	58.5	55.0	50.6	59.2	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	55	118
CNEL:	13	27	59	126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Meadowood
Road Segment: Culver Drive to Canyonwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	901 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.6	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	51.5	50.8	44.4	42.9	51.3	51.6
Heavy Trucks:	54.7	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	59.5	58.7	54.8	50.9	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Meridian
Road Segment: Spectrum to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,707 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	223 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-6.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-23.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-27.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.8	51.7	50.0	43.9	52.5	53.1
Medium Trucks:	47.3	46.6	40.3	38.7	47.2	47.4
Heavy Trucks:	49.8	49.2	40.2	41.4	49.8	49.9
Vehicle Noise:	55.3	54.4	50.8	46.6	55.1	55.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	30	64
CNEL:	7	15	32	68

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Meridian
Road Segment: Alton Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,238 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	185 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.0	50.9	49.1	43.1	51.7	52.3
Medium Trucks:	46.5	45.8	39.4	37.9	46.4	46.6
Heavy Trucks:	49.0	48.4	39.3	40.6	48.9	49.1
Vehicle Noise:	54.5	53.6	50.0	45.8	54.3	54.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	60

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Merit
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,718 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	307 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.53	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-21.77	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-25.72	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.8	53.8	52.0	46.0	54.6	55.2
Medium Trucks:	49.7	49.0	42.6	41.1	49.6	49.8
Heavy Trucks:	52.9	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	57.7	56.9	53.0	49.1	57.6	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	27	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Riparian to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,332	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,090	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.0	67.1	63.9	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	449
CNEL:	48	104	223	481

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Almond Tree Lane to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,108 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	834 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.23	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.47	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.42	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	227
CNEL:	24	52	113	243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Von Karman Avenue to Obsidian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,512 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,022 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.9	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	67.9	67.0	63.7	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	204	439
CNEL:	47	101	218	471

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Parkside to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,469 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,854 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	59.5	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	67.5	66.6	63.3	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	415
CNEL:	44	96	206	444

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Gillman to Seton/Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,393 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	775 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.55	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.79	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.74	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.6	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	66.6	65.7	62.4	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	100	217
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Carlson to Prince

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,299	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,252	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.09	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	77.72	-15.15	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	82.99	-19.11	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.1
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.1	66.2	62.9	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	216	465
CNEL:	50	107	231	498

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: MacArthur Boulevard to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,065 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,738 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.2	66.3	63.1	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	184	397
CNEL:	43	92	197	425

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Harvard Avenue to Parkside
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,016	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,486	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	66.6	65.7	62.4	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	358
CNEL:	38	83	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Bixby to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,167 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,499 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.6	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	59.9	59.3	50.2	51.5	59.9	60.0
Vehicle Noise:	66.6	65.7	62.4	57.9	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	167	360
CNEL:	39	83	179	385

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Jamboree Road to Carlson

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,554	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,108	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.80	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.44	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.39	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.4	68.5	65.2	60.7	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	530
CNEL:	57	122	263	567

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Teller to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,444	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,099	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.78	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.46	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.41	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.3	60.7	54.3	52.7	61.2	61.4
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	69.4	68.5	65.2	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	528
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Jordan East to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,980 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	576 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.84	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-21.07	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-25.03	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.8	65.9	62.6	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	83	179
CNEL:	19	41	89	191

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Culver Drive to Angell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,905	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	735	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	16	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	40.0	feet
Centerline Dist. to Observer:	40.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.78	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.02	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	82.99	-23.97	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.0	65.1	61.8	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	98	211
CNEL:	23	49	105	225

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Modjeska (A Street)
Road Segment: Portola Springs to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,698 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,130 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	27.659
Medium Trucks:	27.514
Heavy Trucks:	27.659

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.42	3.75	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	79.45	-18.66	3.79	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	84.25	-22.61	3.75	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.4	62.7	56.3	54.8	63.3	63.5
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.4	70.5	67.4	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	363
CNEL:	39	84	181	389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Modjeska (A Street)
Road Segment: South of Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,855 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	153 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.10	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-27.34	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-31.30	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.9	56.2	50.1	58.7	59.3
Medium Trucks:	52.8	52.1	45.7	44.2	52.6	52.9
Heavy Trucks:	53.6	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	60.8	59.9	56.8	52.1	60.6	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	89
CNEL:	10	21	44	96

Saturday, March 2, 2024

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Muirlands Boulevard
Road Segment: Bake Parkway to City Limits
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,718 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,214 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	379
CNEL:	41	88	189	407

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Muirlands Boulevard
Road Segment: Alton Parkway to Sterling

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Muirlands Boulevard
Road Segment: Wrigley to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Newport Coast Drive
Road Segment: SR-73 NB Off-Ramp to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,293 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,427 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.4	65.5	62.2	57.7	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	348
CNEL:	37	80	173	373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Newport Coast Drive
Road Segment: Turtle Crest to Bonita Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,138 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,001 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	64.8	63.9	60.7	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	59	128	275
CNEL:	29	63	137	295

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Nightmist
Road Segment: Sand Canyon Avenue to Tulip (Road C)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,314 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	933 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	58.0	56.2	50.1	58.8	59.4
Medium Trucks:	53.5	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	61.5	60.7	57.0	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	82	177

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Northwood
Road Segment: Yale Avenue to Savannah

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,780 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	394 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.90	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-22.14	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.10	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.3	53.6	47.2	45.7	54.1	54.4
Heavy Trucks:	56.1	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	62.3	61.4	57.9	53.6	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	111
CNEL:	12	26	55	119

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Northwood
Road Segment: Goldrush to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,802 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	314 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.90	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.13	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.09	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	53.3	52.6	46.2	44.7	53.2	53.4
Heavy Trucks:	55.1	54.5	45.5	46.7	55.1	55.2
Vehicle Noise:	61.3	60.4	56.9	52.6	61.1	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	44	95
CNEL:	10	22	47	102

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Oak Canyon Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,369 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,103 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.53	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.76	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-22.72	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.4	68.5	65.3	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	154	332
CNEL:	36	77	165	357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Pacifica
Road Segment: Gateway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,617 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,041 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.0	56.3	49.9	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.8	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	282
CNEL:	30	65	140	302

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Pacifica
Road Segment: Alton Parkway to Gateway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,580 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	790 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	55.8	55.1	48.7	47.2	55.7	55.9
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	63.8	62.9	59.6	55.1	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	51	109	235
CNEL:	25	54	117	252

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Project Name: Irvine GP
Road Name: Pacifica
Job Number: 15937
Road Segment: Irvine Center Drive to Fortune Drive (Spectrum Center Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	570 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.3	57.6	51.5	60.1	60.7
Medium Trucks:	54.4	53.7	47.3	45.8	54.2	54.5
Heavy Trucks:	55.7	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	62.4	61.5	58.2	53.7	62.2	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	88	189
CNEL:	20	44	94	202

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Pacifica
Road Segment: Meridian to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,572 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	377 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-22.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.6	57.5	55.8	49.7	58.3	58.9
Medium Trucks:	52.6	51.9	45.5	44.0	52.4	52.7
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	60.6	59.7	56.4	51.9	60.4	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	31	67	143
CNEL:	15	33	71	154

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Park Place
Road Segment: Christamon South to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,747 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	309 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.2	53.2	51.4	45.3	54.0	54.6
Medium Trucks:	48.7	48.0	41.7	40.1	48.6	48.8
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	56.7	55.9	52.2	48.0	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	84

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Bee Canyon Access Road to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,951 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,058 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.3	62.7	53.6	54.9	63.3	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	754
CNEL:	81	175	377	811

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Jeffrey Road to Bee Canyon Access Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,889 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,053 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	753
CNEL:	81	175	376	810

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Arrowhead to Ridge Valley Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,410 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,931 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	71.1	70.2	67.3	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	156	336	723
CNEL:	78	168	361	778

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Sand Canyon Avenue to Arrowhead

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,503 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,774 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.5
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	317	683
CNEL:	73	158	341	735

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Portola Springs to SR-241 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,090 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,410 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.6	61.0	52.0	53.3	61.6	61.7
Vehicle Noise:	69.8	68.9	65.9	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	586
CNEL:	63	136	293	630

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Gatepark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,312	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,418	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.5	69.5	66.6	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	876
CNEL:	94	203	437	942

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: ETC-6 (SR-261) NB Off-Ramp to Gatepark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,911 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,385 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.2	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	62.3	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	934

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,023 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,312 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.82	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	395	850
CNEL:	91	197	424	914

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Jamboree Road to Bellevue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,703 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,286 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.4	53.7	62.1	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	392	843
CNEL:	91	195	421	907

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Bellevue to ETC-6 (SR-261) SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,438 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,264 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	69.0
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	389	838
CNEL:	90	194	418	902

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Yale Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,088 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,152 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.51	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.73	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.69	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	810
CNEL:	87	188	405	872

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Culver Drive to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,869 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,887 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.3
Vehicle Noise:	69.4	68.5	65.5	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	742
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Silverado to Portola Springs

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,134 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,001 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.1	59.6	50.5	51.8	60.1	60.2
Vehicle Noise:	68.3	67.4	64.4	59.5	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	100	216	466
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Pusan
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,468 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	204 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.31	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.55	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.51	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.1	52.0	50.2	44.2	52.8	53.4
Medium Trucks:	47.9	47.2	40.9	39.3	47.8	48.0
Heavy Trucks:	51.1	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	55.9	55.1	51.2	47.3	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Quail Hill Parkway
Road Segment: Shady Canyon Drive to Passage

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,648 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,291 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.84	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.08	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.3	62.5	56.5	65.1	65.7
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.2
Heavy Trucks:	60.0	59.4	50.3	51.6	60.0	60.1
Vehicle Noise:	67.2	66.3	63.2	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	183	395
CNEL:	42	91	197	424

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Quail Hill Parkway
Road Segment: East Knollcrest to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,734 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	803 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.2	60.5	54.4	63.0	63.7
Medium Trucks:	57.1	56.4	50.0	48.5	57.0	57.2
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.1	64.2	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	134	288
CNEL:	31	67	143	309

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Project Name: Irvine GP
Road Name: Quassar Drive (Spectrum)
Job Number: 15937
Road Segment: Irvine Center Drive to Spectrum Center Drive (Fortune)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,026 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	167 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.17	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.40	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	77.97	-28.36	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.8	50.8	49.0	42.9	51.6	52.2
Medium Trucks:	46.7	46.0	39.6	38.1	46.6	46.8
Heavy Trucks:	49.9	49.3	40.3	41.5	49.9	50.0
Vehicle Noise:	54.7	53.9	50.0	46.1	54.6	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	9	18	40

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: MacArthur Boulevard to McGaw Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,982 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,711 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	214	461	993
CNEL:	107	230	495	1,067

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: I-405 Over Crossing to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,560 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,861 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	279	601
CNEL:	65	139	300	646

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: Alton Parkway to Deere Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,869 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,629 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.7	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.8	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	848

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: McGaw Avenue to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,060 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,562 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.7	68.8	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	360	776
CNEL:	83	180	387	833

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: Deere Avenue to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,932 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,469 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	351	757
CNEL:	81	175	377	813

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: Skypark East to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,918 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,808 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.16	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.07	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.03	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.5	69.2	69.8
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	691
CNEL:	74	160	345	742

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: Main Street to Skypark East
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,979 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,566 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.46	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.70	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.66	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.4	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.5	61.7	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	628
CNEL:	67	145	313	674

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Research Drive
Road Segment: Hubble to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,625 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,114 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.3	60.6	54.2	52.7	61.2	61.4
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.3	68.4	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	273	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Research Drive
Road Segment: Scientific to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,298	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,262	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.1
Heavy Trucks:	59.9	59.3	50.2	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	389
CNEL:	42	90	194	418

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Research Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,951 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,068 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.3	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.1	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	66.4	65.5	62.3	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	348
CNEL:	37	81	173	374

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Research Drive
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,459 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	863 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.4	56.7	50.3	48.8	57.3	57.5
Heavy Trucks:	58.2	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	150	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Irvine Boulevard to Trabuco Road (Great Park Boulevard)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,025 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,240 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	59.0	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.0	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	179	385
CNEL:	41	89	192	413

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ridge Valley (O Street)
Road Segment: Portola Parkway to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,161 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,003 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ridge Valley (O Street)
Road Segment: Trabuco Road (Great Park Boulevard) to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	918 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ridge Valley (O Street)
Road Segment: Ranchland to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	930 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	77 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-13.10	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-30.34	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-34.29	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	54.9	53.2	47.1	55.7	56.3
Medium Trucks:	49.8	49.1	42.7	41.2	49.6	49.9
Heavy Trucks:	50.6	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	57.8	56.9	53.8	49.1	57.6	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	60

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ridgeline Drive
Road Segment: Concordia East to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,232	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,339	vehicles
Vehicle Speed:	35	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	40.0	feet
Centerline Dist. to Observer:	40.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.41	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-16.83	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-20.79	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	68.5	67.6	64.2	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	71	154	331

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ridgeline Drive
Road Segment: Turtle Rock Drive to San Simeon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,110 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,247 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.10	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.14	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.10	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	68.2	67.3	63.9	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	137	295
CNEL:	32	68	146	315

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Rockfield Avenue
Road Segment: Whatney to McLaren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,361 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.4	58.7	52.3	50.8	59.2	59.5
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.4	66.5	63.4	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	190	409
CNEL:	44	95	204	439

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Rockfield Avenue
Road Segment: Bake Parkway to Whatney

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,559 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	624 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.4	53.3	62.0	62.6
Medium Trucks:	56.0	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.0	63.1	60.0	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	261

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Rockfield Avenue
Road Segment: Thomas to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,734 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	473 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	59.9	58.2	52.1	60.8	61.4
Medium Trucks:	54.8	54.1	47.7	46.2	54.7	54.9
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.8	61.9	58.8	54.1	62.7	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	94	202
CNEL:	22	47	101	217

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Roosevelt
Road Segment: Jeffrey Road to Vision

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,060 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,407 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.7
Medium Trucks:	58.3	57.6	51.2	49.7	58.2	58.4
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.3	65.4	62.1	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	74	160	345
CNEL:	37	80	172	370

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Roosevelt
Road Segment: Yale Avenue to Van Buren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	758 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.64	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-19.88	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-23.84	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.0	67.1	63.8	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	100	215
CNEL:	23	50	107	230

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Roosevelt
Road Segment: Vision to Bay Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,183 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,335 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.3	55.2	63.8	64.4
Medium Trucks:	58.1	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	59.4	58.8	49.7	51.0	59.4	59.5
Vehicle Noise:	66.1	65.2	61.9	57.4	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	333
CNEL:	36	77	166	357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Roosevelt
Road Segment: Nimitz to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,507 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,197 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.8	54.7	63.3	63.9
Medium Trucks:	57.6	56.9	50.5	49.0	57.5	57.7
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	65.6	64.7	61.4	56.9	65.4	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	71	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Roosevelt
Road Segment: Tulip (Road C) to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,131 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.3	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	58.7	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.4	64.5	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	298
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Royal Oak
Road Segment: Alton Parkway to Eaglecreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	398 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.86	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	75.75	-22.09	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	81.57	-26.05	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	63.8	62.9	59.5	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Oak Canyon Drive to Burt Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,595 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,257 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	64.2	63.6	54.5	55.8	64.2	64.3
Vehicle Noise:	71.9	71.0	67.9	63.1	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	234	505	1,088
CNEL:	117	252	543	1,169

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Irvine Center Drive to Oak Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,313 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,068 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.6	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	64.0	63.4	54.3	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.7	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	227	490	1,056
CNEL:	113	244	526	1,134

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-405 NB Off-Ramp to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,837 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.43	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.81	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.76	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.9	63.8	72.4	73.0
Medium Trucks:	66.3	65.6	59.2	57.7	66.1	66.4
Heavy Trucks:	66.7	66.1	57.0	58.3	66.7	66.8
Vehicle Noise:	74.4	73.5	70.4	65.6	74.2	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	246	530	1,141
CNEL:	123	264	569	1,226

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Burt Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,826 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,441 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.07	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.17	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.13	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	68.0	61.9	70.5	71.1
Medium Trucks:	64.3	63.7	57.3	55.8	64.2	64.5
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.5	71.6	68.5	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	527	1,135
CNEL:	122	263	566	1,220

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Marine to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,722	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,010	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.59	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.65	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.60	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.9	63.8	72.4	73.0
Medium Trucks:	66.2	65.6	59.2	57.7	66.1	66.4
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.4	73.5	70.4	65.6	74.2	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	190	409	882	1,900
CNEL:	204	440	947	2,041

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Trabuco Road to Towngate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,436 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,253 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	422	910
CNEL:	98	211	454	977

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,030 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,220 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	419	903
CNEL:	97	209	450	970

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-5 SB Off-Ramp to Marine

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,537 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,169 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.79	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.45	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.9	70.8	69.1	63.0	71.6	72.2
Medium Trucks:	65.5	64.8	58.4	56.9	65.3	65.6
Heavy Trucks:	65.9	65.3	56.2	57.5	65.8	66.0
Vehicle Noise:	73.6	72.7	69.6	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	168	362	780	1,681
CNEL:	181	389	838	1,806

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Hospital to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,782 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,117 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.53	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.71	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.67	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	884
CNEL:	95	205	441	950

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Nightmist to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,881 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.48	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.76	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.71	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.6	65.0	55.9	57.2	65.5	65.7
Vehicle Noise:	73.3	72.4	69.3	64.5	73.1	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	160	345	744	1,602
CNEL:	172	371	799	1,722

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-405 SB Off-Ramp to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,253 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,991 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.35	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.89	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.84	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.8	62.7	71.3	72.0
Medium Trucks:	65.2	64.5	58.1	56.6	65.1	65.3
Heavy Trucks:	65.6	65.0	56.0	57.2	65.6	65.7
Vehicle Noise:	73.3	72.4	69.3	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	208	449	966
CNEL:	104	224	482	1,038

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-5 NB Off-Ramp to Nightmist

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,459 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,833 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.43	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.81	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.77	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.6	71.3	71.9
Medium Trucks:	65.1	64.4	58.1	56.5	65.0	65.2
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	159	342	738	1,589
CNEL:	171	368	793	1,707

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Towngate to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,028 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,807 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.16	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	178	383	824
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Waterworks to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,123 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,733 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.2	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	70.0	69.0	66.0	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	810
CNEL:	87	187	404	870

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Irvine Boulevard to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,682 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,459 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	60.8	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.2	60.6	51.5	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.1	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	237	511
CNEL:	55	118	255	549

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Roosevelt to Trabuco Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	153	331	712	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Alton Parkway to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,402 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,838 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.12	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.12	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.07	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	391	842
CNEL:	90	195	420	905

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon/Shady Canyon
Road Segment: Quail Hill Parkway to I-405 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,990 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,979 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.56	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.68	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.64	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	734
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Scientific Way
Road Segment: Irvine Center Drive to Wald

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,653 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	136 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-9.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-26.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-30.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.5	51.5	49.7	43.7	52.3	52.9
Medium Trucks:	46.8	46.1	39.7	38.2	46.6	46.9
Heavy Trucks:	48.6	48.0	39.0	40.2	48.6	48.7
Vehicle Noise:	54.8	53.9	50.5	46.1	54.6	55.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	27	59
CNEL:	6	14	29	63

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Shady Canyon Drive
Road Segment: Culver Drive/Bonita Canyon Drive to Cloverfield

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,409 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	776 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.51	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-20.75	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-24.70	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	313
CNEL:	34	73	156	337

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Shady Canyon Drive
Road Segment: Bommer Canyon Road to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,049 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	664 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.19	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.42	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.38	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.3	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.4	66.5	63.5	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	70	152	326
CNEL:	35	76	163	351

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Skyhawk
Road Segment: Great Park Boulevard to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,431 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	861 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-0.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.4	53.6	47.6	56.2	56.8
Medium Trucks:	51.3	50.6	44.2	42.7	51.2	51.4
Heavy Trucks:	54.5	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	59.3	58.5	54.6	50.7	59.2	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	55	118
CNEL:	13	27	58	126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Southwood
Road Segment: Yale Avenue to Colt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,054 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	252 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.85	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.08	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.04	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.1	57.0	55.3	49.2	57.8	58.4
Medium Trucks:	52.3	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.2	53.6	44.5	45.8	54.1	54.3
Vehicle Noise:	60.3	59.4	56.0	51.6	60.1	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	83
CNEL:	9	19	41	88

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Southwood
Road Segment: Challenger to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	240 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.06	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.30	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.25	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.9	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	52.1	51.4	45.1	43.5	52.0	52.2
Heavy Trucks:	53.9	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	60.1	59.2	55.8	51.4	59.9	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Spectrum Center Drive (Fortune
Road Segment: Pacifica to Quassar Drive (Spectrum)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,853 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	978 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.2	56.4	50.3	59.0	59.6
Medium Trucks:	53.7	53.0	46.7	45.1	53.6	53.8
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	61.7	60.9	57.2	53.0	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	171
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Spectrum Center Drive (Fortune
Road Segment: Quassar Drive (Spectrum) to Gatewayb

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,277 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,095 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-20.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.9	50.8	59.4	60.1
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.7	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	62.2	61.4	57.7	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	184
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sunnyhill
Road Segment: Shady Canyon Drive to Turtle Rock Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,807 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	562 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-1.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-19.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-23.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.6	53.5	51.8	45.7	54.3	54.9
Medium Trucks:	49.4	48.7	42.4	40.8	49.3	49.5
Heavy Trucks:	52.6	52.0	43.0	44.3	52.6	52.7
Vehicle Noise:	57.5	56.6	52.7	48.8	57.3	57.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	89
CNEL:	9	20	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Technology Drive
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,564 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,769 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	305	657
CNEL:	71	152	327	705

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Technology Drive
Road Segment: Old Laguna Canyon Road to I-5/SR-133 Undercrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,455	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,100	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.2	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.3	68.4	65.3	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	547
CNEL:	59	126	272	586

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Technology Drive
Road Segment: I-5/SR-133 to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,498	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,021	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.1	60.4	54.0	52.5	61.0	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.2	68.2	65.1	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	533
CNEL:	57	123	265	572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Technology Drive
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,550 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.86	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.8	52.7	61.3	61.9
Medium Trucks:	55.3	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	63.4	62.5	59.4	54.7	63.2	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	221
CNEL:	24	51	110	237

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Toledo Way
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,798 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	643 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	57.6	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	65.3	64.4	61.4	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	137	296
CNEL:	32	69	148	318

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Toledo Way
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	56.8	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.5	63.6	60.5	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	260
CNEL:	28	60	129	279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Toledo Way
Road Segment: Alton Parkway to Parker

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,994 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	494 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	56.1	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	56.5	55.9	46.8	48.1	56.5	56.6
Vehicle Noise:	64.2	63.3	60.2	55.4	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	115	248
CNEL:	27	57	124	267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: Keystone to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,736 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,216 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.5
Medium Trucks:	58.9	58.2	51.8	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	380
CNEL:	41	88	189	407

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: Jeffrey Road to Keystone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,256	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,176	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.1	58.6	58.8
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	66.8	65.9	62.7	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	371
CNEL:	40	86	185	398

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: Culver Drive to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,483 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,112 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.3	58.7	49.7	51.0	59.3	59.4
Vehicle Noise:	66.6	65.7	62.5	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	358
CNEL:	38	83	178	384

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: Monroe to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,111 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	58.5	57.8	51.4	49.9	58.4	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.6	65.6	62.5	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	358
CNEL:	38	83	178	384

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: I-5 NB Off-Ramp to Monroe

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,135 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,084 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.4	65.0
Medium Trucks:	58.4	57.7	51.3	49.8	58.3	58.5
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.4	65.5	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: Yale Avenue to Remington

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,278	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,013	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.3	61.5	55.4	64.1	64.7
Medium Trucks:	58.1	57.4	51.0	49.5	58.0	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.2	65.2	62.1	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	336
CNEL:	36	78	167	361

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: Remington to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,518	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	950	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.8	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	58.6	58.1	49.0	50.3	58.6	58.7
Vehicle Noise:	65.9	65.0	61.8	57.1	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	150	322
CNEL:	35	74	160	346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Ridge Drive
Road Segment: Federation Way to Bonita Canyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,930 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,727 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.5	67.6	64.4	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	223	480
CNEL:	51	111	239	515

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Rock Drive
Road Segment: Ridgeline to Willowleaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,823 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	728 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.33	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.57	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.52	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.6
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	252
CNEL:	27	58	125	270

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Rock Drive
Road Segment: Silkwood to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,720 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	719 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.38	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.62	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.58	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.6	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	250
CNEL:	27	58	124	268

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Rock Drive
Road Segment: Canyon Park to Ridgeline
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,353 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	607 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.12	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.32	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	59.0	49.9	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	223
CNEL:	24	52	111	239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Rock Drive
Road Segment: Sunnyhill to Southernwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,658 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	302 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.15	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-28.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	56.0	46.9	48.2	56.5	56.6
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	70	150

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Rock Drive
Road Segment: Campus Drive to Hillgate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,260 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	599 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	56.6	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	63.9	63.0	59.8	55.1	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	237
CNEL:	25	55	118	254

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Rock Drive
Road Segment: Paseo Segovia to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,076 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	336 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.68	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-23.92	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-27.88	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	65.2	64.3	61.1	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	186
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Golden Glow to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,009 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,548 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	65.0	64.4	55.4	56.7	65.0	65.1
Vehicle Noise:	72.7	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	199	429	924
CNEL:	99	214	461	993

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Ridgeline to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,328 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.95	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.28	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-17.24	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.6	67.8	61.7	70.4	71.0
Medium Trucks:	64.2	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	482	1,039
CNEL:	112	240	518	1,116

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Culver Drive to Golden Glow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,770	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,446	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.9	68.1	62.0	70.7	71.3
Medium Trucks:	64.5	63.8	57.5	55.9	64.4	64.6
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	72.6	71.7	68.7	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	906
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Yale Avenue to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,097 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,061 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.6	61.5	70.1	70.8
Medium Trucks:	64.0	63.3	56.9	55.4	63.9	64.1
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.1	71.2	68.1	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	900

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,053 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,872 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.3	63.7	57.3	55.8	64.2	64.5
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.5	71.6	68.5	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	256	553	1,190
CNEL:	128	276	594	1,279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Mesa to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,247 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,733 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.31	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.93	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.88	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	66.1	65.5	59.1	57.6	66.0	66.3
Heavy Trucks:	66.6	66.0	56.9	58.2	66.5	66.7
Vehicle Noise:	74.3	73.3	70.3	65.5	74.1	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	241	520	1,120
CNEL:	120	259	559	1,204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,232 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,649 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.21	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.03	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.98	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.6	63.6	72.2	72.8
Medium Trucks:	66.0	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.5	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.2	73.2	70.2	65.4	74.0	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	238	512	1,104
CNEL:	119	255	550	1,186

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: California Avenue to Mesa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,280 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,653 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.22	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.02	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.98	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.6	63.6	72.2	72.8
Medium Trucks:	66.0	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.5	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.2	73.3	70.2	65.4	74.0	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	238	513	1,104
CNEL:	119	256	551	1,186

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,107 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,061 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.8
Vehicle Noise:	70.5	69.5	66.5	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	873
CNEL:	94	202	436	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,626 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,619 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.32	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-17.55	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-21.51	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.2	62.5	56.1	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	275	591
CNEL:	64	137	295	635

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,890 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,713 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	374	806
CNEL:	87	187	402	866

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: San Joaquin to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,341 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,503 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.4	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	61.9	61.3	52.2	53.5	61.8	62.0
Vehicle Noise:	69.6	68.7	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	165	354	764
CNEL:	82	177	381	820

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Harvard Avenue to San Joaquin
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,225 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,494 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.63	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.8	54.4	52.9	61.3	61.5
Heavy Trucks:	61.8	61.3	52.2	53.5	61.8	62.0
Vehicle Noise:	69.6	68.6	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	762
CNEL:	82	176	380	818

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Valley Oak Drive
Road Segment: Hawkcreek to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,886 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,146 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.9	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	94	202	435
CNEL:	47	101	217	467

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Valley Oak Drive
Road Segment: Irvine Center Drive to Oak Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,023 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.31	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-19.55	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-23.51	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.3	68.4	65.3	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	202	435
CNEL:	47	101	217	468

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Valley Oak Drive
Road Segment: Barranca Parkway to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	914 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-20.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.7	58.1	51.7	50.1	58.6	58.8
Heavy Trucks:	59.1	58.6	49.5	50.8	59.1	59.2
Vehicle Noise:	66.9	65.9	62.9	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	374
CNEL:	40	87	186	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Valley Oak Drive
Road Segment: Alton Parkway to Hawkcreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,689 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	552 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.5	55.9	49.5	48.0	56.4	56.6
Heavy Trucks:	56.9	56.4	47.3	48.6	56.9	57.1
Vehicle Noise:	64.7	63.7	60.7	55.9	64.5	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	124	267
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Marriott to Morse Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,254	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,908	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	70.7	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	315	679
CNEL:	73	157	338	729

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Michelson Drive to Quartz

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,068 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,811 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.3	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	70.6	69.7	66.5	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	664
CNEL:	71	153	331	712

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,488 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,763 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.5
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	141	305	656
CNEL:	70	152	327	704

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,190 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,398 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.36	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.88	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	84.25	-17.83	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.1	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	742
CNEL:	80	172	369	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Main Street to Anchor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,693 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,697 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.4
Heavy Trucks:	63.2	62.6	53.5	54.8	63.2	63.3
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	300	646
CNEL:	69	149	322	693

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Anchor to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,540 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,602 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.3	69.3	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	631
CNEL:	68	146	314	677

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Morse to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,827 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,461 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.0
Heavy Trucks:	62.8	62.2	53.1	54.4	62.8	62.9
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	608
CNEL:	65	140	303	652

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Martin to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,714	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,121	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	255	550
CNEL:	59	127	274	590

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Campus Drive to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,190 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,078 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.1
Vehicle Noise:	69.3	68.4	65.2	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	543
CNEL:	58	125	270	582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,012 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,063 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.8
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	251	540
CNEL:	58	125	269	580

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Jeffrey Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,871 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.4	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	313	673
CNEL:	72	156	335	722

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Myford Road to Jamboree Road SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,977 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,896 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.6	61.1	52.0	53.3	61.6	61.7
Vehicle Noise:	68.9	68.0	64.8	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	237	511
CNEL:	55	118	254	548

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: The Mall Street to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,348 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,761 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.5	59.8	53.4	51.9	60.4	60.6
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.6	67.6	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	486
CNEL:	52	112	242	522

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Harvard Avenue to The Mall Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,283 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,756 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.1
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.5	67.6	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	225	485
CNEL:	52	112	242	521

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Franciscan Street to Ravenwood Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,627 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,619 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.2	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	460
CNEL:	49	106	229	493

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Ravenwood Street to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,787 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,632 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	462
CNEL:	50	107	230	496

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Culver Drive to Franciscan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,171 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,582 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	210	453
CNEL:	49	105	225	485

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Peters Canyon Road to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,108 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,154 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	67.8	66.9	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	269	580
CNEL:	62	134	289	622

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Jamboree Road NB Off-Ramp to Peters Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,069 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	50.9	59.4	59.6
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	122	262	565
CNEL:	61	130	281	606

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Yale Avenue to Kazan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,945 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,233 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.9	58.3	51.9	50.4	58.8	59.0
Heavy Trucks:	59.8	59.2	50.1	51.4	59.8	59.9
Vehicle Noise:	67.0	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	383
CNEL:	41	89	191	411

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Wisteria to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,674 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,211 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	379
CNEL:	41	88	189	406

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Warner Avenue
Road Segment: Jamboree Road SB Off-ramp to Construction North
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,278	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,415	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	279	600
CNEL:	64	139	299	644

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Warner Avenue
Road Segment: Construction North to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,424 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,685 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.8	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	472
CNEL:	51	109	235	506

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Warner Avenue
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,244 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,175 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.1	58.6	58.8
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	66.8	65.9	62.7	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	371
CNEL:	40	86	185	398

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Warner Avenue
Road Segment: Santa Ynez to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,546 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	953 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.8	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	58.7	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.9	65.0	61.8	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	323
CNEL:	35	75	161	346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Warner Avenue
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,716 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	884 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.7	60.9	54.8	63.5	64.1
Medium Trucks:	57.5	56.8	50.5	48.9	57.4	57.6
Heavy Trucks:	58.3	57.7	48.7	50.0	58.3	58.4
Vehicle Noise:	65.6	64.7	61.5	56.8	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	143	307
CNEL:	33	71	153	329

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Alton Parkway to Blue Lake North
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,475 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	782 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.1	48.7	47.2	55.6	55.8
Heavy Trucks:	57.0	56.5	47.4	48.7	57.0	57.2
Vehicle Noise:	63.8	62.9	59.6	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Eagle Run to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,135 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	754 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.8	52.7	61.3	61.9
Medium Trucks:	55.6	54.9	48.5	47.0	55.5	55.7
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	63.6	62.7	59.4	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	228
CNEL:	24	52	113	244

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Thunder Run to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,371 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	773 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.1
Medium Trucks:	55.7	55.0	48.6	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	107	231
CNEL:	25	53	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Main Street to Timber Run
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,206 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	594 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	54.5	53.9	47.5	46.0	54.4	54.7
Heavy Trucks:	55.9	55.3	46.2	47.5	55.8	56.0
Vehicle Noise:	62.6	61.7	58.4	53.9	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	194
CNEL:	21	45	97	208

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Yale Avenue to Shorebird

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,821 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	645 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.9	58.1	52.0	60.7	61.3
Medium Trucks:	54.9	54.2	47.9	46.3	54.8	55.0
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	62.9	62.0	58.8	54.2	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	44	95	205
CNEL:	22	47	102	220

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Warner Avenue to Stonecreek South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,943 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	573 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.3	57.6	51.5	60.1	60.7
Medium Trucks:	54.4	53.7	47.3	45.8	54.3	54.5
Heavy Trucks:	55.7	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	62.4	61.5	58.2	53.7	62.2	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	88	190
CNEL:	20	44	94	203

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,571 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	542 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	55.5	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.2	61.3	58.0	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Stonecreek North to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,771 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	559 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.5	51.4	60.0	60.6
Medium Trucks:	54.3	53.6	47.2	45.7	54.2	54.4
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	87	186
CNEL:	20	43	93	200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Birdsong to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,532 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	539 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.1	55.4	55.5
Vehicle Noise:	62.1	61.3	58.0	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	182
CNEL:	19	42	90	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Westwood
Road Segment: Yorktown to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,042 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	498 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.88	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-21.12	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-25.08	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.3	54.6	48.2	46.7	55.2	55.4
Heavy Trucks:	57.1	56.5	47.5	48.8	57.1	57.2
Vehicle Noise:	63.3	62.4	59.0	54.6	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	130
CNEL:	14	30	64	139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Westwood
Road Segment: Bryan Avenue to Leaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,912 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	323 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.77	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.01	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.97	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	53.4	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	55.2	54.6	45.6	46.9	55.2	55.3
Vehicle Noise:	61.4	60.5	57.1	52.7	61.2	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	45	97
CNEL:	10	22	48	104

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Deerfield Avenue to Winvale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,497 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	866 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.58	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.81	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.77	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.4	67.4	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	303

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Hicks Canyon Drive to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,806 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	644 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.86	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.10	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.06	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	54	116	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Walnut Avenue to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,894 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,229 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.06	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.29	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-22.25	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.8	62.1	55.7	54.2	62.6	62.9
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	70.8	69.9	66.8	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	204	440
CNEL:	47	102	219	472

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,285 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,179 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.8
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,571 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,120 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.4	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	66.6	65.7	62.5	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	167	359
CNEL:	39	83	179	386

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: West Yale Loop to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,463 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,028 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	58.1	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.0	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	66.2	65.3	62.2	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	340
CNEL:	36	78	169	364

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Winvale Avenue to Karen Ann Lane

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,439 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	861 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.4	56.7	50.3	48.8	57.3	57.5
Heavy Trucks:	58.2	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	65.4	64.5	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	150	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Karen Ann Lane to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,439 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	861 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.4	56.7	50.3	48.8	57.3	57.5
Heavy Trucks:	58.2	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	65.4	64.5	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	150	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Trabuco Road to Southwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,232 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	844 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.1	57.5	48.5	49.8	58.1	58.2
Vehicle Noise:	65.4	64.5	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Southwood to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,703 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	801 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.2	60.5	54.4	63.0	63.6
Medium Trucks:	57.1	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.1	64.2	61.1	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	133	287
CNEL:	31	66	143	308

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Northwood to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,106 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	751 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	56.8	56.1	49.7	48.2	56.7	56.9
Heavy Trucks:	57.6	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	64.9	63.9	60.8	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	59	128	276
CNEL:	30	64	137	296

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,826 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	728 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	56.6	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	64.7	63.8	60.7	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	270
CNEL:	29	62	134	289

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Irvine Boulevard to Park Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,442 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	614 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	56.7	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.0	63.1	59.9	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	56	120	258

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: University Drive to Royce

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,105 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	339 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.65	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-23.89	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-27.85	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.5	60.5	58.7	52.6	61.3	61.9
Medium Trucks:	55.3	54.6	48.2	46.7	55.2	55.4
Heavy Trucks:	56.1	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	63.4	62.4	59.3	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	38	81	175
CNEL:	19	40	87	188

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Court
Road Segment: Arborwood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,458	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	533	vehicles
Vehicle Speed:	25	mph
Near/Far Lane Distance:	12	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	37.5	feet
Centerline Dist. to Observer:	37.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.13	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-19.37	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-23.33	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.2	54.4	48.4	57.0	57.6
Medium Trucks:	52.1	51.4	45.0	43.5	52.0	52.2
Heavy Trucks:	55.3	54.7	45.7	46.9	55.3	55.4
Vehicle Noise:	60.1	59.3	55.4	51.5	60.0	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ada
Road Segment: Barranca Parway to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,117 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,907 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.36	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-15.87	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-19.83	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.9
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	70.5	69.6	66.3	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	395
CNEL:	42	91	196	423

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ada
Road Segment: Alton Parkway to Barranca PArkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,720 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,617 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	61.0	60.3	53.9	52.4	60.9	61.1
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.0	68.1	64.8	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	522
CNEL:	56	120	259	559

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Enterprise to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,648 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,736 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.2	71.1	69.4	63.3	71.9	72.5
Medium Trucks:	65.7	65.1	58.7	57.2	65.6	65.9
Heavy Trucks:	66.2	65.6	56.5	57.8	66.1	66.3
Vehicle Noise:	73.9	73.0	69.9	65.1	73.7	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	148	318	686	1,478
CNEL:	159	342	737	1,587

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: I-5 NB Off-Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	86,442 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,131 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.12	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.12	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.07	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.8	70.0	64.0	72.6	73.2
Medium Trucks:	66.4	65.7	59.4	57.8	66.3	66.5
Heavy Trucks:	66.8	66.2	57.2	58.4	66.8	66.9
Vehicle Noise:	74.5	73.6	70.6	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	156	335	723	1,557
CNEL:	167	360	776	1,673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,708 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.4	62.8	56.4	54.9	63.3	63.6
Heavy Trucks:	63.9	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	71.6	70.7	67.6	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	772
CNEL:	83	179	385	829

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Gateway Boulevard to Enterprise

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,714 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,101 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,061
CNEL:	114	246	529	1,140

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Jeffrey Road to Royal Oak

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,627 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,197 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.6
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.7	69.7	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	671
CNEL:	72	155	335	721

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Daimler Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,127 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,073 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	300	646
CNEL:	69	149	322	694

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,181 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,077 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	300	647
CNEL:	69	150	322	695

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,249 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,083 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	301	648
CNEL:	70	150	323	696

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,629 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,342 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.97	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.27	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.23	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.4	71.5	68.4	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	241	519	1,118
CNEL:	120	259	558	1,201

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Creek Road to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,987 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,061 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.0	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	643
CNEL:	69	149	321	691

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Red Hill Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,832 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,049 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	641
CNEL:	69	148	319	688

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,753 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,960 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.5	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	70.2	69.2	66.2	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	668

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Telemetry to Banting
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,832 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,966 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.5	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	70.2	69.3	66.2	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	623
CNEL:	67	144	311	670

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Irvine Boulevard to Commercentre

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,199 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,151 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.6	69.7	66.6	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	890
CNEL:	96	206	444	957

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Jenner to Telemetry

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,455 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,935 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.0	61.3	54.9	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	617
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Irvine Center Drive to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,235 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,484 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.9	62.2	55.8	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	205	442	952
CNEL:	102	220	475	1,023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Sand Canyon Avenue to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,175 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,067 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.46	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.78	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.74	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.8	71.5	72.1
Medium Trucks:	65.3	64.6	58.3	56.7	65.2	65.4
Heavy Trucks:	65.7	65.1	56.1	57.3	65.7	65.8
Vehicle Noise:	73.4	72.5	69.5	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	212	456	983
CNEL:	106	227	490	1,056

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Laguna Canyon Road to Jenner

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,971 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,895 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	608
CNEL:	65	141	303	653

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Technology Drive East to Barranca Pkwy/Muirlands Blvd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,733 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,443 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.23	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.8	62.2	55.8	54.3	62.7	62.9
Heavy Trucks:	63.2	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.0	70.0	67.0	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	203	438	945
CNEL:	101	219	471	1,015

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Royal Oak to Valley Oak Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,072 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,821 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	592
CNEL:	64	137	295	636

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,772 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,796 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.7	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.8	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	587
CNEL:	63	136	293	631

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Barranca Pkwy/Muirlands Blvd to Jeronimo Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,264 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,239 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	907
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Ada to Technology Drive East
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,976 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,051 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	404	871
CNEL:	94	202	435	936

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,473 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,689 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	563
CNEL:	61	130	281	605

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Jeronimo Road to Hughes

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,533 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	770
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Hughes to Morgan
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,451 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.75	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.71	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	753
CNEL:	81	174	376	809

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Morgan to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,439 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,099 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.7	60.0	53.6	52.1	60.6	60.8
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.9	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	315	679
CNEL:	73	157	339	730

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: San Marino to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,151 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,157 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	692
CNEL:	74	160	345	743

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,387 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,177 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.22	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	69.0	68.1	65.0	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	150	323	696
CNEL:	75	161	347	748

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Hospital to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,755 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,125 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.86	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.37	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.33	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.2	69.9	70.5
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	769
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,481 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,020 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.64	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.59	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.55	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.1	61.0	69.6	70.2
Medium Trucks:	63.5	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.6	70.7	67.6	62.9	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	744
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Murphy Avenue to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,087 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.5	51.4	52.7	61.0	61.1
Vehicle Noise:	68.8	67.8	64.8	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	673
CNEL:	72	156	335	723

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Foster to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,532 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,941 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	60.8	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.6	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	645
CNEL:	69	149	321	693

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Fairbanks to Foster

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,575 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,862 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.3	59.5	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	313	674

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Toledo Way to Bertea

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,840 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	613
CNEL:	66	142	306	659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Pacifica to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,780 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,962 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.52	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.72	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.68	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	730
CNEL:	78	169	364	784

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Bertea to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,315 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,758 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Meridian to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,752 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	279	602
CNEL:	65	139	300	647

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Paseo Westpark to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,248 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,753 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	602
CNEL:	65	139	300	647

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Harvard Avenue to Paseo Westpark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,161 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,581 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.42	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.4	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	59.9	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.6	66.7	63.6	58.8	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	562
CNEL:	60	130	280	604

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Astor
Road Segment: Lynx to Fairbanks
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.98	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-15.25	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-19.21	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.9	58.2	51.8	50.3	58.8	59.0
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	66.9	66.0	62.4	58.2	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	112	241

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Astor
Road Segment: Cadence to Lynx
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,144 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,249 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.78	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-16.46	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-20.42	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.1	60.3	54.3	62.9	63.5
Medium Trucks:	57.7	57.0	50.6	49.1	57.6	57.8
Heavy Trucks:	60.1	59.6	50.5	51.8	60.1	60.2
Vehicle Noise:	65.7	64.8	61.2	57.0	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	87	188
CNEL:	20	43	93	200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: I-5 NB Off-Ramp to Rockfield Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	98,423	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	8,120	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.69	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-10.55	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-14.51	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.8	73.7	72.0	65.9	74.5	75.1
Medium Trucks:	68.3	67.7	61.3	59.8	68.2	68.5
Heavy Trucks:	68.8	68.2	59.1	60.4	68.7	68.9
Vehicle Noise:	76.5	75.6	72.5	67.7	76.3	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	262	565	1,217	2,621
CNEL:	282	607	1,307	2,816

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Muirlands Boulevard to Jeronimo Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,562 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,244 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.3	62.2	70.8	71.4
Medium Trucks:	64.7	64.0	57.6	56.1	64.5	64.8
Heavy Trucks:	65.1	64.5	55.5	56.7	65.1	65.2
Vehicle Noise:	72.8	71.9	68.8	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	269	580	1,250
CNEL:	134	289	624	1,343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Rockfield Boulevard to Muirlands Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	67,848	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,597	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.07	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.17	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.12	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.1	70.3	64.3	72.9	73.5
Medium Trucks:	66.7	66.1	59.7	58.2	66.6	66.8
Heavy Trucks:	67.1	66.6	57.5	58.8	67.1	67.3
Vehicle Noise:	74.9	73.9	70.9	66.1	74.7	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	205	441	949	2,046
CNEL:	220	474	1,020	2,198

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Jeronimo Road to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,605 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,257 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	64.2	63.6	54.5	55.8	64.2	64.3
Vehicle Noise:	71.9	71.0	67.9	63.1	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	234	505	1,088
CNEL:	117	252	543	1,169

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Toledo Way to Cromwell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,916 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,871 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	220	474	1,021
CNEL:	110	236	509	1,097

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Cromwell to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,418 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,747 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	215	464	999
CNEL:	107	231	498	1,074

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Research Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,328	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,420	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	747
CNEL:	80	173	372	802

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Irvine Center Drive to Research Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,154 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	838 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.18	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-20.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-24.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	56.7	56.0	49.7	48.1	56.6	56.8
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	64.8	63.9	60.9	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	368
CNEL:	40	85	184	396

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Lake Forest Drive to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,404 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	611 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-21.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-25.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	55.7	55.2	46.1	47.4	55.7	55.8
Vehicle Noise:	63.5	62.5	59.5	54.7	63.3	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	149	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Banting
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,549 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	458 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-21.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-25.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.8	56.7	55.0	48.9	57.5	58.1
Medium Trucks:	52.0	51.3	45.0	43.4	51.9	52.1
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	60.0	59.1	55.7	51.3	59.8	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	132
CNEL:	14	30	65	141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Pacifica to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,249 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,991 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.0	72.1	69.2	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	208	449	967
CNEL:	104	224	483	1,041

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,424 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,675 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.3	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	417	898
CNEL:	97	208	448	966

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: I-5 HOV Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,665 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,777 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.3	70.9	71.5
Medium Trucks:	64.5	63.9	57.5	56.0	64.4	64.7
Heavy Trucks:	64.6	64.0	54.9	56.2	64.6	64.7
Vehicle Noise:	72.7	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	921
CNEL:	99	213	460	991

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,494 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,598 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.3	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.4	71.5	68.6	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	409	881
CNEL:	95	204	440	948

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Irvine Center Drive to I-5 HOV Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,886 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,548 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.2	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	72.4	71.4	68.5	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	404	870
CNEL:	94	202	434	935

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,530 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,354 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.4	67.6	61.5	70.2	70.8
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	63.9	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	72.0	71.1	68.1	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	178	383	825
CNEL:	89	191	412	887

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: East Yale Loop to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,336 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,338 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.6	61.5	70.1	70.7
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	72.0	71.1	68.1	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	821
CNEL:	88	190	410	883

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,246 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,248 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.7	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	371	800
CNEL:	86	185	399	860

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Ada to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,756 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,290 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.5	61.4	70.0	70.7
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	63.7	63.1	54.1	55.4	63.7	63.8
Vehicle Noise:	71.9	71.0	68.0	63.1	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	810
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,599 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,112 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.5	70.6	67.7	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	767
CNEL:	83	178	383	825

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Red Hill Avenue to Armstrong Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,503 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,084 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.29	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.95	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.91	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.0	71.9	70.1	64.1	72.7	73.3
Medium Trucks:	66.4	65.7	59.3	57.8	66.2	66.5
Heavy Trucks:	66.4	65.8	56.8	58.0	66.4	66.5
Vehicle Noise:	74.5	73.6	70.7	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	195	419	903	1,946
CNEL:	209	451	972	2,093

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Discovery/Herchel to Banting
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,817 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,047 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	752
CNEL:	81	174	375	808

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Lyon to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,364 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,010 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	742
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Creek Road to Lyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,971 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,978 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.1	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	71.3	70.3	67.4	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	734
CNEL:	79	170	367	790

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,568 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,512 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.63	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.61	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.56	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.9	68.1	62.0	70.7	71.3
Medium Trucks:	64.3	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	64.3	63.8	54.7	56.0	64.3	64.5
Vehicle Noise:	72.5	71.6	68.6	63.7	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	529	1,139
CNEL:	123	264	569	1,226

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Sand Canyon Avenue to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,968 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,812 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	322	693
CNEL:	75	161	346	745

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Armstrong Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,304 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.37	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.87	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.83	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.2	71.3	68.4	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	236	508	1,094
CNEL:	118	254	546	1,177

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,406 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,683 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.4	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.6	69.6	66.7	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	306	660
CNEL:	71	153	329	710

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Jamboree Road to Construction Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,325 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,667 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	434	935
CNEL:	101	217	467	1,006

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Santa Rosa to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,498 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,599 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	919
CNEL:	99	213	459	988

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: FedEx to Discovery/Herchel

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,158 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,581 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.03	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	294	632
CNEL:	68	147	316	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Jeffrey Road to Valley Oak Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,899 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,559 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.1
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	313	674

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Laguna Canyon Road to FedEx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,534 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	288	620
CNEL:	67	144	310	667

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Pullman Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,853	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,123	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.12	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-15.12	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-19.07	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	69.0	62.9	71.5	72.1
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.4	72.4	69.5	64.6	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	163	351	755	1,627
CNEL:	175	377	812	1,750

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Construction Circle to Fire Station
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,571 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,357 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.90	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	400	861
CNEL:	93	200	430	926

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Fire Station to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,571 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,357 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.90	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	400	861
CNEL:	93	200	430	926

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Paseo Westpark to Santa Rosa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,602 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,360 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	862
CNEL:	93	200	430	927

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,663 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,200 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.1	69.1	66.2	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	822
CNEL:	88	191	411	885

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bay Tree
Road Segment: Trabuco Road to Roosevelt
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,681 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	221 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.6	53.6	51.8	45.8	54.4	55.0
Medium Trucks:	48.9	48.2	41.8	40.3	48.7	49.0
Heavy Trucks:	50.7	50.1	41.1	42.3	50.7	50.8
Vehicle Noise:	56.9	56.0	52.6	48.2	56.7	57.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	38	81
CNEL:	9	19	40	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Beacon
Road Segment: Ridge Valley to Benchmark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,641 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	300 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.41	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-22.65	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-26.61	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.0	55.9	54.1	48.1	56.7	57.3
Medium Trucks:	51.5	50.8	44.4	42.9	51.4	51.6
Heavy Trucks:	53.9	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	59.5	58.6	55.0	50.8	59.3	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	34	73
CNEL:	8	17	36	77

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Benchmark (LN Street)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,729 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	143 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.65	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.84	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.7	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	48.2	47.6	41.2	39.7	48.1	48.4
Heavy Trucks:	50.7	50.1	41.1	42.3	50.7	50.8
Vehicle Noise:	56.2	55.4	51.7	47.6	56.1	56.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	10	21	44
CNEL:	5	10	22	47

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bison Avenue
Road Segment: SR-73 NB Off-Ramp to California Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,146 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	555
CNEL:	59	128	276	595

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bonita Canyon Drive
Road Segment: MacArthur Boulevard to SR-73

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,956 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,554 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.66	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.57	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-19.53	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	731
CNEL:	79	169	364	785

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bonita Canyon Drive
Road Segment: Turtle Ridge to Shady Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,905	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,725	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.04	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.28	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.24	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.7	66.4	67.0
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	562
CNEL:	60	130	281	604

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bonita Canyon Drive
Road Segment: Newport Coast Drive to Turtle Ridge
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,301 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,592 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.39	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.63	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.58	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	59.8	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	60.3	59.7	50.6	51.9	60.2	60.4
Vehicle Noise:	68.0	67.1	64.0	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	248	533
CNEL:	57	123	266	573

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bonita Canyon Drive
Road Segment: SR-73 NB Off-Ramp to Newport Coast Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,474 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,524 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.58	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.82	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.77	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.3	57.2	65.8	66.4
Medium Trucks:	59.7	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.1	59.5	50.4	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.8	59.0	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	240	518
CNEL:	56	120	258	557

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bosque
Road Segment: Cadence to Great Park Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,932 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,067 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.09	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-17.15	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-21.10	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	57.0	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	59.5	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	65.0	64.1	60.5	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	79	169
CNEL:	18	39	84	180

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bosque
Road Segment: Irvine Boulevard to Benchmark (LN Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,882 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	733 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.54	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-18.78	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-22.73	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.8	59.8	58.0	52.0	60.6	61.2
Medium Trucks:	55.4	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	57.8	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	63.4	62.5	58.8	54.7	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	132
CNEL:	14	30	65	140

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bosque
Road Segment: Benchmark to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,107 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	669 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.94	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.18	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.13	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	55.0	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	57.4	56.8	47.8	49.1	57.4	57.5
Vehicle Noise:	63.0	62.1	58.5	54.3	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	27	58	124
CNEL:	13	28	61	132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bosque
Road Segment: Great Park Boulevard to Beacon
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,843 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	152 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.37	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.61	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.56	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	53.0	51.2	45.1	53.8	54.4
Medium Trucks:	48.5	47.9	41.5	39.9	48.4	48.6
Heavy Trucks:	51.0	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	56.5	55.7	52.0	47.8	56.4	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	21	46
CNEL:	5	11	23	49

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bosque
Road Segment: Beacon to S 5th Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,609 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	133 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.96	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-26.20	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-30.15	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.4	52.4	50.6	44.5	53.2	53.8
Medium Trucks:	47.9	47.3	40.9	39.4	47.8	48.0
Heavy Trucks:	50.4	49.8	40.8	42.0	50.4	50.5
Vehicle Noise:	55.9	55.1	51.4	47.2	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Jamboree Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,671 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,870 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	68.8	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	235	506
CNEL:	54	117	252	543

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Market Place to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,480 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,772 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	488
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Rubicon to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,726 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,792 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	492
CNEL:	53	114	245	528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: El Camino Real to Rubicon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,533 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,776 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	489
CNEL:	52	113	243	525

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Eastwood to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,724 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,215 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.5
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	380
CNEL:	41	88	189	407

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Westwood to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,412 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,106 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	357
CNEL:	38	82	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Culver Drive to Westwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,139 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,084 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.4	57.7	51.3	49.8	58.3	58.5
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.4	65.5	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Yale Avenue to Eastwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,268 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,095 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Cadence
Road Segment: Pusan to Chinon
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,074 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	584 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.78	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.02	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-24.97	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.4	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	58.7	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.4	64.5	61.2	56.7	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	179
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Cadence
Road Segment: Bosque to Pusan
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,540 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.12	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-25.31	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	57.0	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.9	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Cadence
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,864 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	401 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.40	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.64	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.60	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.1	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.7	57.0	57.1
Vehicle Noise:	63.7	62.9	59.6	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	69	149

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Cadence
Road Segment: Chinon to Merit
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,333 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	275 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.05	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-24.28	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-28.24	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.3	51.2	59.8	60.4
Medium Trucks:	54.1	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	57.9	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	50	109
CNEL:	12	25	54	116

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Cadence
Road Segment: Merit to Astor
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,688 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	139 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-10.00	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-27.24	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-31.19	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.1	56.1	54.3	48.3	56.9	57.5
Medium Trucks:	51.1	50.5	44.1	42.6	51.0	51.2
Heavy Trucks:	52.4	51.8	42.8	44.1	52.4	52.5
Vehicle Noise:	59.2	58.3	55.0	50.4	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	74

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: California Avenue
Road Segment: University Drive to Academy Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	59.0	58.3	51.9	50.4	58.9	59.1
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.0	66.1	62.8	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	411

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: California Avenue
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,868 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	814 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	63.9	63.0	59.8	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	111	240
CNEL:	26	55	119	257

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: California Avenue
Road Segment: Theory to Bison Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,414 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	777 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	54	115	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Carlson Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,529 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,436 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.46	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-15.78	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-19.74	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.9	64.3	57.9	56.4	64.8	65.1
Heavy Trucks:	65.3	64.8	55.7	57.0	65.3	65.5
Vehicle Noise:	73.1	72.1	69.1	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	360	777
CNEL:	83	180	387	834

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: University Drive to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,673 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	165	355	765
CNEL:	82	177	381	822

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Jamboree Road to Carlson Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,090 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,565 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	744
CNEL:	80	172	371	800

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Stanford Court to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,465 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.8	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	318	685
CNEL:	74	159	342	736

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: California Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,187 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	311	669
CNEL:	72	155	334	719

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Berkeley Avenue to Cornell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,170 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,747 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.7	68.7	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	576
CNEL:	62	133	287	619

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Martin to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,979 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,483 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.2	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	69.0	68.0	65.0	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	240	517
CNEL:	55	120	258	555

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Campus Drive
Job Number: 15937
Road Segment: Culver Drive to Paseo Montoya (Turtle Rock Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,071 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,326 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	60.8	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.6	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	479
CNEL:	52	111	239	515

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Von Karman Avenue to Teller Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,306 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,263 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.1	59.5	53.1	51.5	60.0	60.2
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.3	67.3	64.3	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	464
CNEL:	50	107	231	499

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: MacArthur Boulevard to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,566 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,202 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	208	449
CNEL:	48	104	224	482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Teller Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,374 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,021 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	67.3	66.4	63.4	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	87	187	403
CNEL:	43	93	201	433

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Carlson Avenue
Road Segment: Michelson Drive to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,352 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,102 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.6
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	67.7	66.7	63.7	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	197	424
CNEL:	46	98	211	455

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Chinon
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,475 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	369 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.73	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-20.96	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-24.92	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.6	54.6	52.8	46.8	55.4	56.0
Medium Trucks:	50.5	49.8	43.5	41.9	50.4	50.6
Heavy Trucks:	53.7	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	58.5	57.7	53.8	49.9	58.4	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	29	63
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Creek Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,892 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	404 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-20.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-24.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.1	52.1	50.3	44.3	52.9	53.5
Medium Trucks:	48.0	47.3	40.9	39.4	47.9	48.1
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	56.0	55.2	51.3	47.4	55.9	56.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	71
CNEL:	8	16	35	76

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,019 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,034 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.3	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.4	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.7	69.8	64.9	73.5	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	154	331	713	1,536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,692 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,925 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.09	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.3	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.6	69.7	64.8	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	303	653	1,407
CNEL:	151	326	703	1,514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,103 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,041 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.3	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.4	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.7	69.8	64.9	73.5	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,429
CNEL:	154	331	714	1,538

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Scottsdale Drive to I-5 SB Off- Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,478	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,907	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.1	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.3	56.8	65.2	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.5	72.6	69.7	64.8	73.3	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	140	302	652	1,404
CNEL:	151	325	701	1,510

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: I-405 NB Off-Ramp to San Leandro

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,681 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,676 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.3	72.4	69.5	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	293	631	1,359
CNEL:	146	315	679	1,462

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: San Leandro to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,972 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,370 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.0	72.1	69.2	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	280	603	1,299
CNEL:	140	301	649	1,398

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Harvard Avenue to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,363 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,402 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	281	606	1,306
CNEL:	140	303	652	1,405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Trabuco Road to Farwell Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,139 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,879 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.06	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.18	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.13	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.4	71.3	69.5	63.5	72.1	72.7
Medium Trucks:	65.7	65.1	58.7	57.2	65.6	65.9
Heavy Trucks:	65.8	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	73.9	73.0	70.1	65.2	73.7	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	306	658	1,418
CNEL:	153	329	708	1,526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,467 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,246 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	127	275	592	1,275
CNEL:	137	295	637	1,371

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Main Street to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,023 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,127 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.7
Vehicle Noise:	72.8	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	269	581	1,251
CNEL:	135	290	625	1,346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Warner Avenue to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,242 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,063 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.3	70.9	71.5
Medium Trucks:	64.5	63.9	57.5	56.0	64.4	64.7
Heavy Trucks:	64.6	64.0	54.9	56.2	64.6	64.7
Vehicle Noise:	72.7	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	124	267	574	1,238
CNEL:	133	287	618	1,332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Walnut Avenue to Scottsdale Dive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,556 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,923 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	561	1,209
CNEL:	130	280	604	1,301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,883 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,950 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.1	70.8	71.4
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.9	54.8	56.1	64.4	64.6
Vehicle Noise:	72.6	71.7	68.7	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	262	564	1,215
CNEL:	131	282	607	1,307

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Shady Canyon Drive to Palo Verde

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,477 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,184 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.5	62.9	53.9	55.2	63.5	63.6
Vehicle Noise:	71.7	70.8	67.8	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	785
CNEL:	84	182	392	844

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Deerfield Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,131 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,641 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,150
CNEL:	124	267	574	1,238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Sandburg Way to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,162 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,643 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,151
CNEL:	124	267	575	1,238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,318 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,574 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.0	63.3	56.9	55.4	63.9	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.2	71.2	68.3	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	527	1,136
CNEL:	122	263	567	1,222

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Palo Verde to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,255 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,001 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	344	740
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: University Drive to Sandburg Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,821 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,368 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	235	507	1,092
CNEL:	118	253	545	1,175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Farwell Avenue to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,846 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,865 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.05	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.19	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.15	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	262	564	1,214
CNEL:	131	281	606	1,306

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Campus Drive to High School

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,099	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,308	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	68.0	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	501	1,079
CNEL:	116	250	539	1,161

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: High School to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,155 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,230 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.9	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,062
CNEL:	114	246	530	1,143

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Bryan Avenue to Florence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,248	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,073	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.19	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.3	62.7	56.3	54.7	63.2	63.4
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	221	477	1,028
CNEL:	111	238	513	1,105

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Portola Parkway to Settlers

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,848 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.8	62.1	55.7	54.2	62.7	62.9
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	71.0	70.0	67.1	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	702
CNEL:	76	163	350	755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Florence to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,003 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.6	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	470	1,012
CNEL:	109	235	505	1,088

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Irvine Boulevard to Viewpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,820	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,295	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.2	69.3	66.4	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	182	393	846
CNEL:	91	196	422	910

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Viewpark to Meadowood
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,209 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	70.1	69.2	66.2	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	178	383	824
CNEL:	89	191	412	887

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Settlers to Furrow
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,153 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,003 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.1	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	68.3	67.4	64.4	59.5	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	467
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Meadowood to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,447 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,604 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	309	666
CNEL:	72	154	333	717

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Discovery Drive
Road Segment: Irvine Center Drive to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,351 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,101 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.5	57.9	48.9	50.2	58.5	58.6
Vehicle Noise:	65.3	64.4	61.1	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	68	146	314

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Discovery Drive
Road Segment: Waterworks Way to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,669 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	715 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.3	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	56.7	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	63.4	62.5	59.2	54.7	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	24	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: East Yale Loop
Road Segment: Alton Parkway to Witherspoon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,632 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,125 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.6	58.0	49.0	50.3	58.6	58.7
Vehicle Noise:	65.3	64.4	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	318

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: East Yale Loop
Road Segment: Osborn Street to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,986 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,071 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	58.4	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	65.1	64.2	61.0	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	134	288
CNEL:	31	66	143	308

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: East Yale Loop
Road Segment: Yale Avenue to Springbrook South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,997 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.7	60.0	53.9	62.5	63.1
Medium Trucks:	56.8	56.1	49.7	48.2	56.6	56.9
Heavy Trucks:	58.1	57.5	48.4	49.7	58.1	58.2
Vehicle Noise:	64.8	63.9	60.6	56.1	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	273
CNEL:	29	63	136	292

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: East Yale Loop
Road Segment: Springbrook North to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,626 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	712 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	56.6	56.1	47.0	48.3	56.6	56.7
Vehicle Noise:	63.4	62.5	59.2	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	23	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: East Yale Loop
Road Segment: Woodspring to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,261 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	599 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	59.5	57.8	51.7	60.3	60.9
Medium Trucks:	54.6	53.9	47.5	46.0	54.5	54.7
Heavy Trucks:	55.9	55.3	46.3	47.5	55.9	56.0
Vehicle Noise:	62.6	61.7	58.4	53.9	62.4	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	42	91	195
CNEL:	21	45	97	209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: East Yale Loop
Road Segment: Barranca Parkway to Eastshore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,685 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	552 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.2	57.4	51.4	60.0	60.6
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	55.5	54.9	45.9	47.2	55.5	55.6
Vehicle Noise:	62.2	61.4	58.1	53.5	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	185
CNEL:	20	43	92	198

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Eastwood
Road Segment: Bryan Avenue to Monticello
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,260 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	269 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.56	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.80	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.76	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.4	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	52.6	51.9	45.6	44.0	52.5	52.7
Heavy Trucks:	54.4	53.9	44.8	46.1	54.4	54.6
Vehicle Noise:	60.6	59.7	56.3	51.9	60.4	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	40	86
CNEL:	9	20	43	92

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Eastwood
Road Segment: Columbus to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,057 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	170 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.56	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-25.80	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-29.76	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.3	53.5	47.5	56.1	56.7
Medium Trucks:	50.6	49.9	43.6	42.0	50.5	50.7
Heavy Trucks:	52.4	51.9	42.8	44.1	52.4	52.6
Vehicle Noise:	58.6	57.7	54.3	49.9	58.4	58.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	29	63
CNEL:	7	15	31	68

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: El Camino Real
Road Segment: Jamboree Road to Alliance (SR-261 Bridge)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,548 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,613 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.9	58.2	51.8	50.3	58.8	59.0
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	66.9	66.0	62.7	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	378
CNEL:	40	87	188	405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: El Camino Real North
Road Segment: El Camino Real to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,459 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	533 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.3	51.2	59.8	60.4
Medium Trucks:	54.1	53.4	47.0	45.5	53.9	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	57.9	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	193

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Fairbanks
Road Segment: Alton Parkway to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,551 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.47	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-16.77	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-20.73	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	68.0
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	69.6	68.7	65.4	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	160	344
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Fairbanks
Road Segment: Irvine Boulevard to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,507 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	784 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.49	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.73	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.69	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.7
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.0
Vehicle Noise:	66.7	65.8	62.5	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	218
CNEL:	23	50	108	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Fairchild Road
Road Segment: MacArthur Boulevard to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,094 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	585 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	55.9	46.9	48.2	56.5	56.6
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Gateway Boulevard
Road Segment: Alton Parkway to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,817 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,387 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-16.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-19.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.7	57.9	51.9	60.5	61.1
Medium Trucks:	55.2	54.6	48.2	46.7	55.1	55.3
Heavy Trucks:	57.7	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	63.2	62.4	58.7	54.6	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	46	100	216
CNEL:	23	50	107	230

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Gateway Boulevard
Road Segment: Spectrum Center Drive (Fortune Drive) to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,537 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,034 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.4	56.6	50.6	59.2	59.8
Medium Trucks:	54.0	53.3	46.9	45.4	53.8	54.1
Heavy Trucks:	56.4	55.9	46.8	48.1	56.4	56.5
Vehicle Noise:	62.0	61.1	57.5	53.3	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	177
CNEL:	19	41	88	189

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Gateway Boulevard
Road Segment: Irvine Center Drive to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,264 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	517 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-3.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-20.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-24.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.4	53.6	47.6	56.2	56.8
Medium Trucks:	50.9	50.3	43.9	42.4	50.8	51.1
Heavy Trucks:	53.4	52.8	43.8	45.1	53.4	53.5
Vehicle Noise:	59.0	58.1	54.5	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	112
CNEL:	12	26	55	119

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Great Park Boulevard
Road Segment: Sand Canyon to Ridge Valley

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,662 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,767 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.35	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.89	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.84	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.8	63.7	72.3	73.0
Medium Trucks:	66.2	65.5	59.1	57.6	66.1	66.3
Heavy Trucks:	66.6	66.0	57.0	58.2	66.6	66.7
Vehicle Noise:	74.3	73.4	70.3	65.6	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	243	523	1,127
CNEL:	121	261	562	1,211

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Great Park Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,409 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,931 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.8
Medium Trucks:	62.0	61.3	54.9	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	616
CNEL:	66	143	307	662

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Great Park Boulevard (EB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	747 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.68	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-20.92	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-24.87	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.2
Vehicle Noise:	68.9	67.9	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	142	305
CNEL:	33	71	152	328

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Great Park Boulevard (WB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,680 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	634 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.39	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.63	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.58	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.4	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	274
CNEL:	29	63	136	294

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: University Drive to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,172 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,912 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.86	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-16.38	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-20.33	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.7	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	71.8	70.9	67.7	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	223	480
CNEL:	51	111	239	514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Michelson Drive to Coronado
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,339 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,585 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	292	628
CNEL:	67	145	313	674

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: San Marino to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,801 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,459 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.9	61.3	54.9	53.3	61.8	62.0
Heavy Trucks:	62.8	62.2	53.1	54.4	62.8	62.9
Vehicle Noise:	70.0	69.1	65.9	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	607
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Coronado to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,155 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,405 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	61.9
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	599
CNEL:	64	138	298	642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: San Carlo to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,022 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,394 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.84	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.9	69.0	65.8	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	277	597
CNEL:	64	138	297	640

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Main Street to San Carlo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,489 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,350 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.8
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.8	68.9	65.8	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	589
CNEL:	63	136	293	632

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Alton Parkway to San Leon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,284 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,673 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.3	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	218	470
CNEL:	50	109	234	504

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: San Juan to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,554 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,696 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.2	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	68.4	67.5	64.3	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	220	474
CNEL:	51	110	236	509

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: San Leon to San Juan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,663 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.1	60.5	51.4	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,703 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,296 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.3	62.6	56.5	65.1	65.7
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.2	66.3	63.2	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	396
CNEL:	43	92	197	425

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Deerfield Avenue to Poplar Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,436 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,273 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	182	392
CNEL:	42	91	195	420

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,252 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,423 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	196	422
CNEL:	45	97	210	453

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Bridge Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,993 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,402 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	418
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Paseo Westpark to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,907 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,395 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	193	416
CNEL:	45	96	207	446

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Poplar Street to Walnut Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,736 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,133 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.41	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-18.65	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-22.60	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.9	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	182	391
CNEL:	42	90	195	420

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: California Avenue to Berkeley Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,147 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,250 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.98	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	83	180	387
CNEL:	41	89	193	415

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Culver Drive to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,914 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,230 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.8	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	67.0	66.1	62.9	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	178	383
CNEL:	41	88	191	411

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Berkeley to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,559 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,201 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Warner Avenue to Paseo Westpark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,284 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,096 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Hicks Canyon Drive
Road Segment: Delamesa to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,212 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.25	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	75.75	-25.49	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	81.57	-29.44	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	50.0	49.3	43.0	41.4	49.9	50.1
Heavy Trucks:	51.8	51.2	42.2	43.5	51.8	51.9
Vehicle Noise:	58.0	57.1	53.7	49.3	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Hornet (5th St)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,323 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	274 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-5.02	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-22.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-26.21	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.4	53.3	51.5	45.5	54.1	54.7
Medium Trucks:	49.2	48.5	42.2	40.6	49.1	49.3
Heavy Trucks:	52.4	51.8	42.8	44.0	52.4	52.5
Vehicle Noise:	57.2	56.4	52.5	48.6	57.1	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	52
CNEL:	5	12	25	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Hubble
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,420 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	200 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.40	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.63	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.59	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	51.9	50.1	44.1	52.7	53.3
Medium Trucks:	47.8	47.1	40.8	39.2	47.7	47.9
Heavy Trucks:	51.0	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	55.9	55.0	51.1	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	42
CNEL:	4	10	21	44

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: SR-133 NB Off- Ramp to Ridge Valley (O Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,517 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,425 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.71	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.67	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.6	61.5	70.1	70.8
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	63.8	63.2	54.2	55.5	63.8	63.9
Vehicle Noise:	72.0	71.1	68.1	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	238	513	1,105
CNEL:	119	256	552	1,188

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: SR-133 SB Off-Ramp to SR-133 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,382 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.9	71.0	68.1	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	236	508	1,095
CNEL:	118	254	547	1,178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Sand Canyon to SR-133 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,181 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,727 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.89	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.35	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.30	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.1	68.4	62.3	70.9	71.5
Medium Trucks:	64.6	63.9	57.5	56.0	64.5	64.7
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.8	71.8	68.9	64.0	72.6	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	255	550	1,185
CNEL:	128	275	592	1,275

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Merit to Alton
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.3	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,001
CNEL:	108	232	500	1,077

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Journey to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,637 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,023 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.98	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.3	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.4	70.5	67.6	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	219	472	1,016
CNEL:	109	236	507	1,093

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,240	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,660	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.4	62.7	62.8
Vehicle Noise:	70.9	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	433	933
CNEL:	100	216	466	1,004

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Pusan Way to Chinon (B Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,080 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Palo Lado to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,664 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,777 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.2	69.8
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	71.1	70.1	67.2	62.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	446	960
CNEL:	103	223	480	1,033

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Culver Drive to Palo Lado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,323 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,749 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.57	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.67	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	62.8	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	206	443	954
CNEL:	103	221	476	1,026

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,641 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	431	929
CNEL:	100	215	464	999

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Old Myford Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,352 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,669 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	434	935
CNEL:	101	217	467	1,006

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Bosque (LY Street) to Modjeska

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,429 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,675 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.7	62.1	55.7	54.1	62.6	62.8
Heavy Trucks:	62.8	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	435	937
CNEL:	101	217	468	1,008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Jamboree Road to Old Myford Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,680 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,614 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.6	62.0	55.6	54.0	62.5	62.7
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	199	428	922
CNEL:	99	214	461	992

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Market Place to SR-261 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,554 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,603 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	920
CNEL:	99	213	459	990

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Jeffrey Road to Groveland
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,022 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,642 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.40	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	431	929
CNEL:	100	215	464	999

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Bake Parkway to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,197 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,326 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.84	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	396	853
CNEL:	92	198	426	918

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Independence Way (The Groves)/The Groves to JeffreyRoad

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,428 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.7	69.3
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.5	69.6	66.6	61.7	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	408	878
CNEL:	94	204	438	945

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Chinon (B Street) to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: SR-261 NB Off-Ramp to Central Park
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,707 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,368 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	70.4	69.5	66.5	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	401	864
CNEL:	93	200	431	929

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Pueblo Norte to Independence Way (The Groves)/ Parkwood

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,114 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,319 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.83	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	70.3	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	395	852
CNEL:	92	197	425	916

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Yale Avenue to Pueblo Norte

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,924 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,304 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	394	848
CNEL:	91	197	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Modjeska to Pusan Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,148 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Central Park Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,842 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,049 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.8	68.8	65.9	61.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	784
CNEL:	84	182	392	844

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Parker to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,962 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,894 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.2	60.6	54.2	52.6	61.1	61.3
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	744
CNEL:	80	173	372	801

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Alton Parkway to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,955 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,481 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.3	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	632
CNEL:	68	146	315	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,953 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,451 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.08	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.16	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.12	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	68.0	61.9	70.5	71.1
Medium Trucks:	64.4	63.7	57.3	55.8	64.2	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.5	63.7	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	528	1,137
CNEL:	122	263	567	1,222

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Orange Tree to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,142 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,137 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.76	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.6	63.0	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.5	54.4	55.7	64.0	64.2
Vehicle Noise:	71.8	70.8	67.8	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	495	1,067
CNEL:	115	247	532	1,147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: I-405 SB Off-Ramp to Research

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,016 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.63	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.61	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.57	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.9	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.3	63.7	54.7	56.0	64.3	64.4
Vehicle Noise:	72.0	71.1	68.1	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,062
CNEL:	114	246	529	1,141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Irvine Valley College to Orange Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,177 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,057 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	64.0	63.4	54.3	55.6	63.9	64.1
Vehicle Noise:	71.7	70.8	67.7	62.9	71.5	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	227	489	1,054
CNEL:	113	244	525	1,132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Fontaine Avenue to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,660 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,849 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.7	63.1	54.1	55.4	63.7	63.8
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	219	472	1,017
CNEL:	109	236	507	1,093

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Culver Drive to Deerwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,919 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,788 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.7	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.4	70.5	67.4	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	217	467	1,007
CNEL:	108	233	502	1,082

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Deerwood to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,516 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,755 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.3	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,001
CNEL:	108	232	499	1,075

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Yale Avenue to Fontaine Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,236 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,814 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.5	70.1
Medium Trucks:	63.3	62.6	56.2	54.7	63.2	63.4
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.4	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	469	1,011
CNEL:	109	234	504	1,087

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Jeffrey Road to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,688 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,687 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.94	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.3	70.3	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	213	459	989
CNEL:	106	229	493	1,062

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Alton Parkway to Spectrum

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,966 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,545 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.6	60.5	69.1	69.7
Medium Trucks:	63.0	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.1	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	447	963
CNEL:	103	223	480	1,035

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Spectrum to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,370 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,496 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	206	443	954
CNEL:	103	221	476	1,025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Hearthstone to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,645 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,271 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	197	424	913
CNEL:	98	211	455	981

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Charter to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,266 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,239 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	907
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Jamboree Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,938 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,965 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	397	855
CNEL:	92	198	426	919

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Pacifica to Entertainment (Enterprise/Fortune)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,251 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,073 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.8	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.5	69.6	66.5	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	406	876
CNEL:	94	203	437	941

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,095 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,060 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.4	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	873
CNEL:	94	202	435	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Harvard Avenue to Hearthstone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,806 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	178	382	824
CNEL:	89	191	411	885

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Research to Hubble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,287 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,581 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.5	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	362	779
CNEL:	84	180	389	837

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Barranca Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,542 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,685 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.9	69.0	65.9	61.1	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	371	800
CNEL:	86	185	399	860

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,258 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,496 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.67	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.63	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.8	54.4	52.9	61.3	61.5
Heavy Trucks:	61.9	61.3	52.2	53.5	61.8	62.0
Vehicle Noise:	69.6	68.6	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	762
CNEL:	82	176	380	819

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Discovery to Charter

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,253 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,743 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.22	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.3	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	70.0	69.1	66.0	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	377	812
CNEL:	87	188	405	872

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,520 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,353 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.7	67.4	68.0
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.3	68.4	65.3	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	340	733
CNEL:	79	170	365	787

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Muller to Tesla

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,303 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,252 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	330	712
CNEL:	76	165	355	765

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Sand Canyon Avenue to Odyssey

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,449 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,265 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.1	61.4	61.5
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	332	714
CNEL:	77	165	356	768

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Tesla to Scientific Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,259 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,084 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.6	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.1	60.5	51.4	52.7	61.0	61.2
Vehicle Noise:	68.8	67.9	64.8	60.0	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	314	676
CNEL:	73	156	337	726

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Scientific Way to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,211 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,997 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	305	657
CNEL:	71	152	328	706

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Gateway Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,509 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,022 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.65	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.59	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.6	60.9	61.0
Vehicle Noise:	68.7	67.7	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	307	662
CNEL:	71	153	330	712

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Laguna Canyon Road to Discovery
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,356 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,009 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	306	660
CNEL:	71	153	329	709

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Odyssey to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,996 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.6	59.8	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	141	305	657
CNEL:	71	152	327	705

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive (Edinger)
Road Segment: Redhill Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,036 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,303 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.6	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	70.8	69.9	66.8	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	919
CNEL:	99	213	458	987

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: I-5 SB Off-Ramp to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,825	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,761	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.1	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	73.3	70.4	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	156	337	725	1,562
CNEL:	168	362	780	1,681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	82,589 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,814 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.51	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-11.73	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-15.68	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.8	72.7	71.0	64.9	73.5	74.1
Medium Trucks:	67.2	66.5	60.2	58.6	67.1	67.3
Heavy Trucks:	67.2	66.6	57.6	58.9	67.2	67.3
Vehicle Noise:	75.4	74.5	71.5	66.6	75.2	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	177	382	823	1,772
CNEL:	191	411	885	1,906

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Walnut Avenue to Michelle Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,520 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,993 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.4	64.8	58.4	56.9	65.3	65.5
Heavy Trucks:	65.5	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.6	72.7	69.7	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	306	659	1,420
CNEL:	153	329	709	1,528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: I-405 NB Off-Ramp to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	82,134 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,776 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.49	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.75	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-15.71	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.2	74.1	72.3	66.3	74.9	75.5
Medium Trucks:	68.6	67.9	61.5	60.0	68.4	68.7
Heavy Trucks:	68.6	68.0	59.0	60.2	68.6	68.7
Vehicle Noise:	76.7	75.8	72.9	68.0	76.5	77.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	273	587	1,266	2,727
CNEL:	293	632	1,362	2,933

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Michelle Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,389	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,652	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.5	65.0	65.2
Heavy Trucks:	65.2	64.6	55.5	56.8	65.1	65.3
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	135	292	629	1,355
CNEL:	146	314	676	1,457

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Main Street to Kelvin Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	71,714 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,916 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.90	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.34	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.30	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.6	73.5	71.7	65.7	74.3	74.9
Medium Trucks:	68.0	67.3	60.9	59.4	67.8	68.1
Heavy Trucks:	68.0	67.4	58.4	59.6	68.0	68.1
Vehicle Noise:	76.1	75.2	72.3	67.4	75.9	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	249	537	1,156	2,491
CNEL:	268	577	1,244	2,680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	88,960	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	7,339	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	130	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	110.0	feet
Centerline Dist. to Observer:	110.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	88.792
Medium Trucks:	88.747
Heavy Trucks:	88.792

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.83	-3.84	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.40	-3.84	-1.20	*-4.96*	0.000	0.000
Heavy Trucks:	86.40	-15.36	-3.84	-1.20	*-5.14*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	66.0	65.3	58.9	57.4	65.8	66.1
Heavy Trucks:	66.0	65.4	56.4	57.6	66.0	66.1
Vehicle Noise:	74.1	73.2	70.3	65.4	73.9	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	434	936	2,016
CNEL:	217	467	1,007	2,169

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Kelvin Avenue to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,488	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,485	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.57	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.67	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.62	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.2	73.2	71.4	65.4	74.0	74.6
Medium Trucks:	67.6	67.0	60.6	59.1	67.5	67.7
Heavy Trucks:	67.7	67.1	58.0	59.3	67.6	67.8
Vehicle Noise:	75.8	74.9	71.9	67.1	75.6	76.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	237	510	1,099	2,368
CNEL:	255	549	1,183	2,548

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,760	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,425	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.52	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.72	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.67	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.2	73.1	71.4	65.3	73.9	74.5
Medium Trucks:	67.6	66.9	60.6	59.0	67.5	67.7
Heavy Trucks:	67.6	67.0	58.0	59.2	67.6	67.7
Vehicle Noise:	75.8	74.8	71.9	67.0	75.6	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	235	507	1,091	2,351
CNEL:	253	545	1,174	2,529

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Birch Street to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,222 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,143 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.4	71.0	71.6
Medium Trucks:	64.6	64.0	57.6	56.0	64.5	64.7
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.1	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	270	582	1,254
CNEL:	135	291	626	1,349

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Dupont Drive to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,292 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,644 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.85	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.39	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.35	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.1	69.3	63.3	71.9	72.5
Medium Trucks:	65.5	64.9	58.5	57.0	65.4	65.6
Heavy Trucks:	65.6	65.0	55.9	57.2	65.5	65.7
Vehicle Noise:	73.7	72.8	69.8	65.0	73.5	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	137	296	637	1,372
CNEL:	148	318	685	1,477

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Alton Parkway to Beckman

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,116 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,960 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.13	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.11	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.06	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.8	72.7	71.0	64.9	73.5	74.1
Medium Trucks:	67.2	66.5	60.2	58.6	67.1	67.3
Heavy Trucks:	67.2	66.6	57.6	58.9	67.2	67.3
Vehicle Noise:	75.4	74.5	71.5	66.6	75.2	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	221	477	1,028	2,215
CNEL:	238	513	1,106	2,382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Fairchild Road to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,524 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,251 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.78	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.73	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.3	72.4	69.5	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	129	279	601	1,294
CNEL:	139	300	646	1,392

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Beckman to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,530 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,581 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.79	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.45	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.41	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.5	72.4	70.6	64.6	73.2	73.8
Medium Trucks:	66.9	66.2	59.8	58.3	66.7	67.0
Heavy Trucks:	66.9	66.3	57.3	58.5	66.9	67.0
Vehicle Noise:	75.0	74.1	71.2	66.3	74.8	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	210	453	975	2,100
CNEL:	226	487	1,049	2,260

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: I-5 NB Off-Ramp to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,710	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,349	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	66.0	59.6	58.0	66.5	66.7
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	942	2,029
CNEL:	218	470	1,013	2,182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Campus Drive to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,220 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,896 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.08	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.16	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.11	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.8	64.1	57.7	56.2	64.6	64.9
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	73.0	72.0	69.1	64.2	72.8	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	263	567	1,221
CNEL:	131	283	610	1,313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: El Camino Real to West Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,741 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,186 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.40	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.84	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.80	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.2	64.2	72.8	73.4
Medium Trucks:	66.5	65.8	59.4	57.9	66.3	66.6
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.6	73.7	70.8	65.9	74.4	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	198	426	918	1,978
CNEL:	213	458	988	2,128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: West Drive to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,973 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,205 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.42	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.82	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.78	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	66.5	65.8	59.4	57.9	66.4	66.6
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.7	73.7	70.8	65.9	74.5	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	198	427	921	1,984
CNEL:	213	460	991	2,134

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Bryan Avenue to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,016	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,879	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.06	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.17	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.13	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.7	69.9	63.9	72.5	73.1
Medium Trucks:	66.1	65.5	59.1	57.5	66.0	66.2
Heavy Trucks:	66.2	65.6	56.5	57.8	66.1	66.3
Vehicle Noise:	74.3	73.4	70.4	65.6	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	188	405	873	1,880
CNEL:	202	436	939	2,022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Koll Center to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,783 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,612 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.76	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.48	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.44	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.4	63.8	57.4	55.9	64.3	64.6
Heavy Trucks:	64.5	63.9	54.8	56.1	64.5	64.6
Vehicle Noise:	72.6	71.7	68.7	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	539	1,161
CNEL:	125	269	580	1,249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: MacArthur Boulevard to Koll Center

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,209 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,565 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.70	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.54	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.50	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.3	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,151
CNEL:	124	267	575	1,238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Irvine Boulevard to Portola Pakway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,386 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.2	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	62.3	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	934

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Warner Avenue to Edinger Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	87,609 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,228 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.77	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-11.47	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-15.43	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	77.3	76.3	74.5	68.4	77.1	77.7
Medium Trucks:	70.7	70.0	63.7	62.1	70.6	70.8
Heavy Trucks:	70.7	70.1	61.1	62.4	70.7	70.8
Vehicle Noise:	78.9	78.0	75.0	70.1	78.7	79.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	243	523	1,128	2,430
CNEL:	261	563	1,213	2,614

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	72,728 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,000 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.96	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.28	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.24	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.5	75.4	73.7	67.6	76.2	76.8
Medium Trucks:	69.9	69.2	62.9	61.3	69.8	70.0
Heavy Trucks:	69.9	69.3	60.3	61.6	69.9	70.0
Vehicle Noise:	78.1	77.2	74.2	69.3	77.9	78.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	215	462	996	2,146
CNEL:	231	497	1,072	2,309

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Edinger Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,731 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,505 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.59	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.65	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.61	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.1	75.1	73.3	67.2	75.9	76.5
Medium Trucks:	69.5	68.9	62.5	61.0	69.4	69.6
Heavy Trucks:	69.6	69.0	59.9	61.2	69.5	69.7
Vehicle Noise:	77.7	76.8	73.8	69.0	77.5	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	941	2,027
CNEL:	218	470	1,012	2,180

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Walnut Avenue to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,825 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,688 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.76	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	63.1	62.4	56.0	54.5	63.0	63.2
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.2	70.2	67.1	62.4	71.0	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	210	452	974
CNEL:	104	225	485	1,045

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: I-5 NB Off-Ramp to Roosevelt
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,919 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,273 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.27	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-11.97	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-15.92	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.8	64.3	55.2	56.5	64.8	65.0
Vehicle Noise:	72.1	71.2	68.0	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	496	1,069
CNEL:	115	247	532	1,146

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Poplar (Meadows) to Walnut Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,048 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,211 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.5	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	70.7	69.8	66.6	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	907
CNEL:	97	210	452	973

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,925 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,201 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.4	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	420	905
CNEL:	97	209	451	971

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Irvine Center Drive to Poplar (Meadows)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,837 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,029 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.09	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	70.5	69.6	66.4	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	409	880
CNEL:	94	203	438	944

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: I-405 NB Off-Ramp to Quail Creek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,159 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,221 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.5	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	70.7	69.8	66.6	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	422	908
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Barranca Parkway to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,058 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,965 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	404	871
CNEL:	93	201	434	934

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Quail Creek to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,376 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,073 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.1
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	191	412	887
CNEL:	95	205	442	951

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Irvine Valley College to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,568 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,759 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	63.0	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.2	69.3	66.1	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	841
CNEL:	90	194	419	902

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Trabuco Road to Hideaway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,141 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,147 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	747
CNEL:	80	173	372	801

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Hideaway to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,123 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,145 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	346	746
CNEL:	80	173	372	801

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Roosevelt to Grove

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,043 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,386 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.35	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.89	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.85	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.2	69.2	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	171	369	795
CNEL:	85	184	396	853

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Grove to Trabuco Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,887 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,208 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.11	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.13	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.08	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	767
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Bryan Avenue to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,374 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,423 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.1	60.5	51.4	52.7	61.0	61.2
Vehicle Noise:	68.3	67.4	64.2	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	312	673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Encore to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,548 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,200 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.2	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	182	393
CNEL:	42	91	196	421

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Irvine Boulevard to Encore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,094 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,163 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.0	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	57.9	57.3	48.2	49.5	57.8	58.0
Vehicle Noise:	65.1	64.2	61.0	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	412

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeronimo Road
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,085 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	667 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	56.3	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	64.3	63.4	60.3	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	55	118	255
CNEL:	27	59	127	273

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeronimo Road
Road Segment: Alton Parkway to Goodyear

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,560 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	624 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.4	53.3	62.0	62.6
Medium Trucks:	56.0	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.0	63.1	60.0	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	261

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Old Laguna Canyon Road to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,702 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,430 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.64	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.60	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.6	71.3	71.9
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	64.9	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	73.1	72.2	69.2	64.3	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	283	609	1,311
CNEL:	141	304	655	1,411

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Laguna Canyon Freeway to Quail Hill Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,770 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,384 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	69.7	68.8	65.8	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	269	579
CNEL:	62	134	289	623

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Discovery to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,177 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,252 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.08	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.1	60.4	54.0	52.5	61.0	61.2
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	69.3	68.3	65.4	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	251	541
CNEL:	58	125	270	583

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: I-405 Overcrossing to Pasteur

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,634 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	712 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.88	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.12	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.08	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Irvine Center Drive to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,313 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,098 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	230	496
CNEL:	53	115	248	534

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Quail Hill Parkway to I-405 Overcrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,634 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	712 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.88	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.12	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.08	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Pasteur to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,608 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	58.6	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	66.8	65.9	62.9	58.0	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	371
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Waterworks to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,469 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	781 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.1
Heavy Trucks:	59.1	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	67.2	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	183	395
CNEL:	43	92	197	425

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,308 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	603 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	57.9	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	57.9	57.3	48.3	49.6	57.9	58.0
Vehicle Noise:	66.1	65.2	62.2	57.3	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	154	333
CNEL:	36	77	166	358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,148 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	590 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	57.8	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	57.8	57.3	48.2	49.5	57.8	57.9
Vehicle Noise:	66.0	65.1	62.1	57.2	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	152	328
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Lake Forest Drive
Road Segment: Hidden Canyon to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,601 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.3	68.4	65.3	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	544
CNEL:	58	126	271	584

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Lake Forest Drive
Road Segment: Bake Parkway to Hidden Canyon (Romano)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,213	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,585	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.5	60.9	51.9	53.2	61.5	61.6
Vehicle Noise:	69.2	68.3	65.3	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	251	540
CNEL:	58	125	269	580

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Lake Forest Drive
Road Segment: Tesla to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,514 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,197 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.2	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	58.7	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	66.4	65.5	62.4	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	467
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Lake Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,204 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	512 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.31	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	70.80	-19.55	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	77.97	-23.50	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.1	55.1	53.3	47.3	55.9	56.5
Medium Trucks:	51.0	50.3	43.9	42.4	50.9	51.1
Heavy Trucks:	54.2	53.6	44.6	45.8	54.2	54.3
Vehicle Noise:	59.0	58.2	54.3	50.4	58.9	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	45	96

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Lynx
Road Segment: Irvine Boulevard to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,244 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	103 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-9.28	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-26.52	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-30.48	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.1	49.0	47.3	41.2	49.8	50.4
Medium Trucks:	44.9	44.3	37.9	36.3	44.8	45.0
Heavy Trucks:	48.1	47.5	38.5	39.8	48.1	48.2
Vehicle Noise:	53.0	52.1	48.2	44.3	52.8	53.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	12	27
CNEL:	3	6	13	28

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: I-405 SB Off-Ramp to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,587 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,163 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.93	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.31	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.27	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.0	74.0	72.2	66.2	74.8	75.4
Medium Trucks:	68.3	67.6	61.2	59.7	68.2	68.4
Heavy Trucks:	68.0	67.4	58.3	59.6	67.9	68.1
Vehicle Noise:	76.5	75.6	72.7	67.8	76.3	76.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	264	568	1,223	2,636
CNEL:	284	612	1,318	2,839

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Main Street to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,233	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,052	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.83	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.40	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.36	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.9	73.9	72.1	66.1	74.7	75.3
Medium Trucks:	68.2	67.5	61.1	59.6	68.1	68.3
Heavy Trucks:	67.9	67.3	58.2	59.5	67.8	68.0
Vehicle Noise:	76.4	75.5	72.6	67.7	76.2	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	260	560	1,206	2,598
CNEL:	280	603	1,299	2,798

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: I-405 NB Off-Ramp and I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,411 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,984 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.78	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.46	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.42	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.9	73.8	72.1	66.0	74.6	75.2
Medium Trucks:	68.1	67.4	61.1	59.5	68.0	68.2
Heavy Trucks:	67.8	67.2	58.2	59.4	67.8	67.9
Vehicle Noise:	76.4	75.4	72.6	67.6	76.2	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	257	555	1,195	2,574
CNEL:	277	597	1,287	2,773

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Jamboree Road to Fairchild Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,283 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.6
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	357	768
CNEL:	82	178	382	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Fairchild Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,243 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,238 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.5	68.6	65.5	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	353	761
CNEL:	82	176	379	816

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Fitch to Red Hill Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,124 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,475 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.46	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.78	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.74	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.3	69.4	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	187	403	868

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Michelson Drive to Douglas

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,388 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,827 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.88	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.36	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.32	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.8	64.2	55.2	56.5	64.8	64.9
Vehicle Noise:	72.1	71.2	68.0	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	133	287	619	1,333
CNEL:	143	308	664	1,430

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Douglas to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,645 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,766 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.81	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.43	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.39	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.9	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.0	71.1	67.9	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	132	284	612	1,318
CNEL:	141	305	656	1,414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Skypark to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,482 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,762 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.46	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.78	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.73	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	69.3	68.4	65.2	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	150	322	694
CNEL:	74	160	346	745

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Redhill Avenue to Skypark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,170 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,324 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.4	53.0	51.5	59.9	60.1
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.1	67.2	64.1	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	610
CNEL:	65	141	304	654

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Birch Street to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,485 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,773 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.53	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.70	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.66	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	236	509
CNEL:	55	118	254	546

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Campus Drive to Birch Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,205 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,997 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.05	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-16.19	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-20.14	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	401	864
CNEL:	93	200	430	927

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Gillette Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,084 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,802 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.85	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.39	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.35	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.7	69.7	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	859
CNEL:	92	199	428	922

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: MacArthur Boulevard to Mercantile

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,229 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,319 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.26	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.98	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.94	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.8	62.2	53.2	54.5	62.8	62.9
Vehicle Noise:	70.1	69.2	66.0	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	785
CNEL:	84	181	391	842

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Executive Park to MacArthur Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,777 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,374 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.2	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Von Karman Avenue to Cartwright

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,808 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,377 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.5	53.1	51.5	60.0	60.2
Heavy Trucks:	61.0	60.4	51.3	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: McDurmott to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,518 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,188 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.8	66.4
Medium Trucks:	59.8	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	586
CNEL:	63	135	292	629

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Red Hill Avenue to Executive Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,974 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,143 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.36	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.7	59.0	52.6	51.1	59.6	59.8
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.8	66.8	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	268	578
CNEL:	62	134	288	620

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Jamboree Road to Union
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,073 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.22	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.6
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	262	565
CNEL:	61	131	282	606

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,660 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,209 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	378
CNEL:	41	87	188	406

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Siglo to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,322 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,007 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.16	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	60.2	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	67.5	66.6	63.4	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	553
CNEL:	59	128	275	593

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Veneto to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,421 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,932 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.28	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.2	58.6	52.2	50.6	59.1	59.3
Heavy Trucks:	60.1	59.5	50.4	51.7	60.1	60.2
Vehicle Noise:	67.3	66.4	63.3	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	250	539
CNEL:	58	125	269	579

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Paseo Westpark to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,129 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,001 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.95	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.4	57.9	58.1
Heavy Trucks:	58.9	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	66.1	65.2	62.0	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Harvard Avenue to San Mateo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,988 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	989 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Marine Way
Job Number: 15937
Road Segment: Sand Canyon Avenue to Ridge Valley (O Street)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,977 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,381 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.85	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	77.72	-13.39	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	82.99	-17.34	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	64.0	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	65.4	64.8	55.7	57.0	65.3	65.5
Vehicle Noise:	72.1	71.2	67.9	63.4	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	668
CNEL:	72	154	332	716

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: Alton Parkway to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,132 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,733 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.2	68.3	65.0	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	537
CNEL:	58	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: Lynx to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,174 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,654 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	61.0	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	69.1	68.2	64.9	60.4	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	245	527
CNEL:	56	122	262	564

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: County Access to Treble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,186 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	68.2	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	463
CNEL:	50	107	230	496

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: Ridge Valley (O Street) to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,478 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,102 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.0	59.4	53.0	51.4	59.9	60.1
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.4
Vehicle Noise:	68.1	67.2	63.9	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	451
CNEL:	48	104	224	483

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: Skyhawk to County Access

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,553 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,696 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.1	66.2	63.0	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	391
CNEL:	42	90	194	418

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,922 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,479 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	357
CNEL:	38	82	177	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: Treble to Lynx
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,993 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,402 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.3	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.3	65.4	62.1	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	160	344
CNEL:	37	79	171	369

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: McGaw Avenue
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,638 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,208 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	61.0	59.2	53.1	61.8	62.4
Medium Trucks:	56.2	55.6	49.2	47.7	56.1	56.3
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	64.2	63.4	59.9	55.5	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	251
CNEL:	27	58	125	268

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: McGaw Avenue
Road Segment: Red Hill Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,434 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,191 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	56.2	55.5	49.1	47.6	56.1	56.3
Heavy Trucks:	58.0	57.4	48.4	49.7	58.0	58.1
Vehicle Noise:	64.2	63.3	59.9	55.5	64.0	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	115	249
CNEL:	27	57	123	266

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: McGaw Avenue
Road Segment: Daimler to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,107 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	751 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.2	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	56.0	55.4	46.4	47.7	56.0	56.1
Vehicle Noise:	62.2	61.3	57.9	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: McGaw Avenue
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,648 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	383 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-22.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-26.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.0	56.0	54.2	48.1	56.8	57.4
Medium Trucks:	51.3	50.6	44.2	42.7	51.1	51.4
Heavy Trucks:	53.1	52.5	43.5	44.7	53.1	53.2
Vehicle Noise:	59.3	58.4	54.9	50.6	59.1	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	54	117
CNEL:	12	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Meadowood
Road Segment: Culver Drive to Canyonwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,668 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	880 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.5	55.5	53.7	47.7	56.3	56.9
Medium Trucks:	51.4	50.7	44.3	42.8	51.2	51.5
Heavy Trucks:	54.6	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	59.4	58.6	54.7	50.8	59.3	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	120
CNEL:	13	27	59	128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Meridian
Road Segment: Spectrum to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,808 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	232 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-6.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-23.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-27.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	51.9	50.1	44.1	52.7	53.3
Medium Trucks:	47.5	46.8	40.4	38.9	47.3	47.6
Heavy Trucks:	49.9	49.4	40.3	41.6	49.9	50.0
Vehicle Noise:	55.5	54.6	51.0	46.8	55.3	55.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	14	30	65
CNEL:	7	15	32	70

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Meridian
Road Segment: Alton Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,259 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	186 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.0	51.0	49.2	43.1	51.8	52.4
Medium Trucks:	46.5	45.8	39.5	37.9	46.4	46.6
Heavy Trucks:	49.0	48.4	39.4	40.6	49.0	49.1
Vehicle Noise:	54.5	53.7	50.0	45.8	54.4	54.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	57
CNEL:	6	13	28	60

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Merit
Road Segment: Irvine Boulevard to Cadence
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,772 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	311 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.47	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-21.71	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-25.66	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.9	53.8	52.1	46.0	54.6	55.2
Medium Trucks:	49.7	49.1	42.7	41.2	49.6	49.9
Heavy Trucks:	52.9	52.4	43.3	44.6	52.9	53.1
Vehicle Noise:	57.8	56.9	53.0	49.1	57.6	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	60

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Riparian to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,376 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,094 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	68.0	67.1	63.9	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	450
CNEL:	48	104	224	482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Almond Tree Lane to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	838 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.21	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.44	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.40	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.9	58.3	51.9	50.3	58.8	59.0
Heavy Trucks:	60.2	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	66.9	66.1	62.8	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	228
CNEL:	24	53	113	244

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Von Karman Avenue to Obsidian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,498 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.9	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	61.2	60.6	51.5	52.8	61.2	61.3
Vehicle Noise:	67.9	67.0	63.7	59.2	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	204	439
CNEL:	47	101	218	470

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Parkside to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,511 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,857 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.6	65.3	65.9
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	67.5	66.6	63.4	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	89	193	415
CNEL:	44	96	206	445

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Gillman to Seton/Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	784 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.50	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.74	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.69	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.7
Heavy Trucks:	59.9	59.3	50.3	51.6	59.9	60.0
Vehicle Noise:	66.7	65.8	62.5	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	218
CNEL:	23	50	108	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Carlson to Prince

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,204 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,244 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.07	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	77.72	-15.17	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	82.99	-19.12	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	60.3	59.8	50.7	52.0	60.3	60.4
Vehicle Noise:	67.1	66.2	62.9	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	464
CNEL:	50	107	231	497

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: MacArthur Boulevard to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,112 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,742 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	67.2	66.3	63.1	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	185	398
CNEL:	43	92	198	426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Harvard Avenue to Parkside

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,076 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,491 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.5	57.9	51.5	50.0	58.4	58.6
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	66.6	65.7	62.4	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	359
CNEL:	38	83	178	384

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Bixby to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,256 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,506 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.6	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	66.6	65.7	62.4	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	361
CNEL:	39	83	179	387

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Jamboree Road to Carlson

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,363 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,092 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.77	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.47	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.43	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.3	68.4	65.2	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	527
CNEL:	56	122	262	564

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Teller to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,464 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,101 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.78	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.45	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.41	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.3	60.7	54.3	52.7	61.2	61.4
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.7
Vehicle Noise:	69.4	68.5	65.2	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	528
CNEL:	57	122	263	566

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Jordan East to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,991 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	577 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.83	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-21.07	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-25.02	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.8	65.9	62.6	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	179
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Culver Drive to Angell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,947 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	738 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.76	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.00	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	82.99	-23.95	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.0	61.2	55.1	63.8	64.4
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.0	65.1	61.9	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	98	211
CNEL:	23	49	105	226

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Modjeska (A Street)
Road Segment: Portola Springs to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,789 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,138 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	27.659
Medium Trucks:	27.514
Heavy Trucks:	27.659

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.39	3.75	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	79.45	-18.63	3.79	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	84.25	-22.59	3.75	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.7	69.4	70.0
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.5	70.6	67.4	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	79	169	365
CNEL:	39	84	182	391

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Modjeska (A Street)
Road Segment: South of Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,833 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	151 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.15	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-27.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-31.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.9	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	52.7	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	53.5	53.0	43.9	45.2	53.5	53.6
Vehicle Noise:	60.8	59.9	56.7	52.0	60.6	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	88
CNEL:	9	20	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Muirlands Boulevard
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,023 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,239 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	59.0	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.0	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	179	385
CNEL:	41	89	192	413

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Muirlands Boulevard
Road Segment: Alton Parkway to Sterling
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,701 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	965 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.3	55.2	63.8	64.5
Medium Trucks:	57.9	57.2	50.8	49.3	57.8	58.0
Heavy Trucks:	58.7	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	70	151	326
CNEL:	35	75	162	349

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Muirlands Boulevard
Road Segment: Wrigley to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Newport Coast Drive
Road Segment: SR-73 NB Off-Ramp to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,365 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,433 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	58.4	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.4	65.5	62.2	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	349
CNEL:	37	81	174	374

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Newport Coast Drive
Road Segment: Turtle Crest to Bonita Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,158 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,003 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	58.1	57.5	48.5	49.8	58.1	58.2
Vehicle Noise:	64.8	64.0	60.7	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	59	128	275
CNEL:	29	64	137	295

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Nightmist
Road Segment: Sand Canyon Avenue to Tulip (Road C)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,178 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	922 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	53.5	52.8	46.4	44.9	53.3	53.6
Heavy Trucks:	55.9	55.4	46.3	47.6	55.9	56.0
Vehicle Noise:	61.5	60.6	57.0	52.8	61.3	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	76	164
CNEL:	18	38	81	175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Northwood
Road Segment: Yale Avenue to Savannah

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,798 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	396 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.88	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-22.12	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.08	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.3	53.6	47.2	45.7	54.2	54.4
Heavy Trucks:	56.1	55.5	46.5	47.8	56.1	56.2
Vehicle Noise:	62.3	61.4	58.0	53.6	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	111
CNEL:	12	26	55	119

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Northwood
Road Segment: Goldrush to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,833 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	316 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.86	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.10	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.05	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.1	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	53.3	52.6	46.3	44.7	53.2	53.4
Heavy Trucks:	55.1	54.6	45.5	46.8	55.1	55.3
Vehicle Noise:	61.3	60.4	57.0	52.6	61.1	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	45	96
CNEL:	10	22	48	103

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Oak Canyon Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,331 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,100 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.54	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.78	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-22.73	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.7	61.2	61.4
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.4	68.5	65.3	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	332
CNEL:	36	77	165	356

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Pacifica
Road Segment: Gateway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,784 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,055 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.0	56.4	50.0	48.5	56.9	57.1
Heavy Trucks:	58.3	57.8	48.7	50.0	58.3	58.5
Vehicle Noise:	65.1	64.2	60.9	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	285
CNEL:	30	66	142	305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Pacifica
Road Segment: Alton Parkway to Gateway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,769 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	806 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.9	55.2	48.8	47.3	55.7	56.0
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	63.9	63.0	59.7	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	238
CNEL:	25	55	118	255

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Pacifica
Job Number: 15937
Road Segment: Irvine Center Drive to Fortune Drive (Spectrum Center Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,054 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	582 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	54.4	53.8	47.4	45.9	54.3	54.6
Heavy Trucks:	55.8	55.2	46.1	47.4	55.7	55.9
Vehicle Noise:	62.5	61.6	58.3	53.8	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	192
CNEL:	21	44	95	205

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Pacifica
Road Segment: Meridian to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,576 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	377 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-22.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.6	57.5	55.8	49.7	58.3	58.9
Medium Trucks:	52.6	51.9	45.5	44.0	52.5	52.7
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	60.6	59.7	56.4	51.9	60.4	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	31	67	144
CNEL:	15	33	71	154

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Park Place
Road Segment: Christamon South to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,737 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	308 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.2	53.1	51.4	45.3	53.9	54.5
Medium Trucks:	48.7	48.0	41.7	40.1	48.6	48.8
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	56.7	55.8	52.2	48.0	56.5	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	84

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Portola Parkway
Job Number: 15937
Road Segment: Bee Canyon Access Road to Sand Canyon Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,814 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,130 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.6	70.6	67.7	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	772
CNEL:	83	179	385	830

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Jeffrey Road to Bee Canyon Access Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,724 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,122 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.4	62.7	56.3	54.8	63.3	63.5
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.6	70.6	67.7	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	770
CNEL:	83	178	384	828

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Arrowhead to Ridge Valley Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,934 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,975 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.1	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	71.2	70.3	67.4	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	340	734
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Sand Canyon Avenue to Arrowhead

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,926 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,809 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	692
CNEL:	74	160	346	744

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Portola Springs to SR-241 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,392 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,435 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.7	61.0	54.6	53.1	61.6	61.8
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.9	68.9	66.0	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	593
CNEL:	64	137	296	638

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Gatepark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,092 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,483 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.4
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.4	61.8	52.8	54.1	62.4	62.5
Vehicle Noise:	70.6	69.7	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	414	891
CNEL:	96	207	445	959

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: ETC-6 (SR-261) NB Off-Ramp to Gatepark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,669 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,448 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.4	61.8	52.7	54.0	62.4	62.5
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	883
CNEL:	95	205	441	950

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,810 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,377 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	70.4	69.5	66.5	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	402	866
CNEL:	93	201	432	931

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Jamboree Road to Bellevue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,532 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,354 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.90	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	860
CNEL:	93	199	430	925

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Bellevue to ETC-6 (SR-261) SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,239 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,330 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.5	62.0	62.2
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	397	854
CNEL:	92	198	427	919

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Yale Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,234 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	831
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Culver Drive to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,470 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,936 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.19	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	351	755
CNEL:	81	175	377	812

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Silverado to Portola Springs

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,381 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,021 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	60.2	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	68.4	67.5	64.5	59.6	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	473
CNEL:	51	110	236	509

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Pusan
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,449 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	202 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.34	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.58	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.54	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	52.0	50.2	44.1	52.8	53.4
Medium Trucks:	47.9	47.2	40.8	39.3	47.7	48.0
Heavy Trucks:	51.1	50.5	41.4	42.7	51.1	51.2
Vehicle Noise:	55.9	55.1	51.2	47.2	55.8	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Quail Hill Parkway
Road Segment: Shady Canyon Drive to Passage
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,772 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,301 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.3	62.6	56.5	65.1	65.8
Medium Trucks:	59.2	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.2	66.3	63.2	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	184	397
CNEL:	43	92	198	426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Quail Hill Parkway
Road Segment: East Knollcrest to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,762 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	805 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	57.1	56.4	50.0	48.5	57.0	57.2
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.2	64.3	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	134	289
CNEL:	31	67	144	310

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Quassar Drive (Spectrum)
Road Segment: Irvine Center Drive to Spectrum Center Drive (Fortune)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,051 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	169 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.11	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.35	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	77.97	-28.31	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.9	50.8	49.1	43.0	51.6	52.2
Medium Trucks:	46.7	46.1	39.7	38.1	46.6	46.8
Heavy Trucks:	49.9	49.3	40.3	41.6	49.9	50.0
Vehicle Noise:	54.8	53.9	50.0	46.1	54.6	55.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	38
CNEL:	4	9	19	40

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: MacArthur Boulevard to McGaw Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,998	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,795	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.3	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.7	63.1	54.0	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.4	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	217	468	1,008
CNEL:	108	233	503	1,083

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: I-405 Over Crossing to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,980 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,896 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	608
CNEL:	65	141	303	654

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: Alton Parkway to Deere Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,372 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,671 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.1	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.9	68.9	65.9	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	370	797
CNEL:	86	185	398	857

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: McGaw Avenue to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,871 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,629 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.7	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.8	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	848

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: Deere Avenue to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,440 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,511 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.5	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.6	60.8	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	355	765
CNEL:	82	177	382	822

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: Skypark East to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,863 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.29	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.94	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.90	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.2	63.5	63.6
Vehicle Noise:	71.2	70.3	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	152	327	705
CNEL:	76	163	352	757

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: Main Street to Skypark East
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,603 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,617 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.32	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.56	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.52	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	298	641
CNEL:	69	148	320	689

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Research Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,138 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.7	61.2	61.4
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.4	68.5	65.3	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	553
CNEL:	59	128	276	594

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Research Drive
Road Segment: Scientific to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,713 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,379 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	60.3	59.7	50.6	51.9	60.2	60.4
Vehicle Noise:	67.5	66.6	63.4	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	413
CNEL:	44	95	206	443

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Research Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,105 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	177	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Research Drive
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,553 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	871 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.3	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.5	64.6	61.4	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	304
CNEL:	33	70	151	326

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Irvine Boulevard to Trabuco Road (Great Park Boulevard)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,991 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,237 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	58.9	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.0	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	412

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ridge Valley (O Street)
Road Segment: Portola Parkway to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,229 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,009 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.1	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	335
CNEL:	36	78	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ridge Valley (O Street)
Road Segment: Trabuco Road (Great Park Boulevard) to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	918 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ridge Valley (O Street)
Road Segment: Ranchland to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	931 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	77 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-13.10	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-30.33	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-34.29	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	54.9	53.2	47.1	55.7	56.3
Medium Trucks:	49.8	49.1	42.7	41.2	49.6	49.9
Heavy Trucks:	50.6	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	57.8	56.9	53.8	49.1	57.6	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	60

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ridgeline Drive
Road Segment: Concordia East to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,267 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,342 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.42	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-16.82	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-20.78	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.6
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	68.5	67.6	64.2	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	71	154	331

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ridgeline Drive
Road Segment: Turtle Rock Drive to San Simeon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,253 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.12	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.12	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.07	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	62.1	61.5	52.4	53.7	62.1	62.2
Vehicle Noise:	68.2	67.3	63.9	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	296
CNEL:	32	68	147	317

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Rockfield Avenue
Road Segment: Whatney to McLaren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,792 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,385 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	414
CNEL:	44	96	206	444

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Rockfield Avenue
Road Segment: Bake Parkway to Whatney

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,636 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	630 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.3	61.2	59.4	53.4	62.0	62.6
Medium Trucks:	56.0	55.3	49.0	47.4	55.9	56.1
Heavy Trucks:	56.9	56.3	47.2	48.5	56.8	57.0
Vehicle Noise:	64.1	63.2	60.0	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	53	114	245
CNEL:	26	57	122	263

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Rockfield Avenue
Road Segment: Thomas to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	478 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.8	54.1	47.8	46.2	54.7	54.9
Heavy Trucks:	55.7	55.1	46.0	47.3	55.6	55.8
Vehicle Noise:	62.9	62.0	58.8	54.2	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	204
CNEL:	22	47	101	219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Roosevelt
Road Segment: Jeffrey Road to Vision

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,577 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,450 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	66.4	65.6	62.3	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Roosevelt
Road Segment: Yale Avenue to Van Buren
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,343 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	771 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.57	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-19.81	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-23.76	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.1	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.1	67.2	63.9	59.4	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	217
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Roosevelt
Road Segment: Vision to Bay Tree
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,893 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,394 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.2	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	66.3	65.4	62.1	57.6	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	343
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Roosevelt
Road Segment: Nimitz to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,604 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,205 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.3	49.3	50.6	58.9	59.0
Vehicle Noise:	65.6	64.7	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	311
CNEL:	33	72	155	333

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Roosevelt
Road Segment: Tulip (Road C) to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,013 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,156 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.4	56.8	50.4	48.9	57.3	57.5
Heavy Trucks:	58.7	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	65.5	64.6	61.3	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	32	70	150	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Royal Oak
Road Segment: Alton Parkway to Eaglecreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	398 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.86	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	75.75	-22.09	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	81.57	-26.05	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	63.8	62.9	59.5	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Oak Canyon Drive to Burt Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,249 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,311 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	64.2	63.6	54.6	55.9	64.2	64.3
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	236	509	1,097
CNEL:	118	254	547	1,179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Irvine Center Drive to Oak Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,129 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,136 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.76	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.6	63.0	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.5	54.4	55.7	64.0	64.2
Vehicle Noise:	71.8	70.8	67.8	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	495	1,067
CNEL:	115	247	532	1,147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-405 NB Off-Ramp to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,785 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,860 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.46	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.78	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.74	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.7	69.9	63.8	72.5	73.1
Medium Trucks:	66.3	65.6	59.3	57.7	66.2	66.4
Heavy Trucks:	66.7	66.1	57.1	58.3	66.7	66.8
Vehicle Noise:	74.4	73.5	70.4	65.7	74.2	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	247	532	1,146
CNEL:	123	265	571	1,231

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Burt Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,479 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,495 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.12	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.12	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.08	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	247	531	1,144
CNEL:	123	265	571	1,229

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Marine to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,150 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.71	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.53	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.48	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	70.0	63.9	72.5	73.1
Medium Trucks:	66.4	65.7	59.3	57.8	66.3	66.5
Heavy Trucks:	66.8	66.2	57.2	58.4	66.8	66.9
Vehicle Noise:	74.5	73.6	70.5	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	194	417	898	1,935
CNEL:	208	448	965	2,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Trabuco Road to Towngate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,347 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,411 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.8	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	436	939
CNEL:	101	217	468	1,009

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,517 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,260 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	454	979

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-5 SB Off-Ramp to Marine

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,956	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,286	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.91	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.33	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.28	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.6	64.9	58.5	57.0	65.5	65.7
Heavy Trucks:	66.0	65.4	56.4	57.6	66.0	66.1
Vehicle Noise:	73.7	72.8	69.7	65.0	73.5	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	171	369	795	1,712
CNEL:	184	396	854	1,840

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Hospital to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,333 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,162 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.6	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	414	893
CNEL:	96	207	445	959

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Nightmist to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,225	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,896	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.50	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.74	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.70	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.8	62.7	71.3	71.9
Medium Trucks:	65.2	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.6	65.0	55.9	57.2	65.6	65.7
Vehicle Noise:	73.3	72.4	69.3	64.5	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	161	346	746	1,607
CNEL:	173	372	801	1,726

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-405 SB Off-Ramp to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,420 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,005 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.37	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.87	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.82	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.7	71.4	72.0
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.6	65.0	56.0	57.2	65.6	65.7
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	969
CNEL:	104	224	483	1,042

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-5 NB Off-Ramp to Nightmist

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,804 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,944 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.55	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.69	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.64	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.8	71.4	72.0
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.6	65.0	56.0	57.3	65.6	65.7
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	162	349	752	1,620
CNEL:	174	375	808	1,740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Towngate to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,276 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,993 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.7
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	860
CNEL:	92	199	429	924

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Waterworks to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,662 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,777 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	380	818
CNEL:	88	189	408	879

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Irvine Boulevard to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,085 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,904 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	610
CNEL:	66	141	304	656

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Roosevelt to Trabuco Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	153	331	712	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Alton Parkway to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,877 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,877 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.18	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.06	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.01	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.6	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	395	850
CNEL:	91	197	424	913

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon/Shady Canyon
Road Segment: Quail Hill Parkway to I-405 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,017 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,981 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.56	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.68	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.63	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	734
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Scientific Way
Road Segment: Irvine Center Drive to Wald
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,634 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	135 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-9.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-26.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-30.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.5	51.4	49.7	43.6	52.2	52.8
Medium Trucks:	46.7	46.0	39.7	38.1	46.6	46.8
Heavy Trucks:	48.6	48.0	38.9	40.2	48.5	48.7
Vehicle Noise:	54.7	53.8	50.4	46.0	54.5	55.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	27	58
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Shady Canyon Drive
Road Segment: Culver Drive/Bonita Canyon Drive to Cloverfield

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,541 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	787 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.45	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-20.69	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-24.64	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.0	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.4	60.8	51.7	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.1	60.3	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	68	147	316
CNEL:	34	73	158	340

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Shady Canyon Drive
Road Segment: Bommer Canyon Road to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,202 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	677 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.11	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.34	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.30	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	59.4	58.7	52.3	50.8	59.3	59.5
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Skyhawk
Road Segment: Great Park Boulevard to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,359 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	855 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-0.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.3	53.6	47.5	56.1	56.8
Medium Trucks:	51.2	50.6	44.2	42.7	51.1	51.4
Heavy Trucks:	54.5	53.9	44.8	46.1	54.4	54.6
Vehicle Noise:	59.3	58.4	54.5	50.6	59.1	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	55	118
CNEL:	13	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Southwood
Road Segment: Yale Avenue to Colt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,070 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	253 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.82	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.06	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.02	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.1	57.0	55.3	49.2	57.8	58.5
Medium Trucks:	52.3	51.7	45.3	43.8	52.2	52.5
Heavy Trucks:	54.2	53.6	44.6	45.8	54.2	54.3
Vehicle Noise:	60.3	59.5	56.0	51.6	60.2	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	83
CNEL:	9	19	41	88

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Southwood
Road Segment: Challenger to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	240 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.06	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.30	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.25	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.9	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	52.1	51.4	45.1	43.5	52.0	52.2
Heavy Trucks:	53.9	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	60.1	59.2	55.8	51.4	59.9	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Spectrum Center Drive (Fortune
Road Segment: Pacifica to Quassar Drive (Spectrum)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,720 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	967 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	53.7	53.0	46.6	45.1	53.5	53.8
Heavy Trucks:	56.1	55.6	46.5	47.8	56.1	56.3
Vehicle Noise:	61.7	60.8	57.2	53.0	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	84	181

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Spectrum Center Drive (Fortune
Road Segment: Quassar Drive (Spectrum) to Gatewayb

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,355 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,102 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-20.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	54.2	53.6	47.2	45.7	54.1	54.3
Heavy Trucks:	56.7	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	62.2	61.4	57.7	53.6	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	185
CNEL:	20	42	92	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sunnyhill
Road Segment: Shady Canyon Drive to Turtle Rock Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,895 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	569 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-1.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-19.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-23.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.6	53.6	51.8	45.8	54.4	55.0
Medium Trucks:	49.5	48.8	42.4	40.9	49.4	49.6
Heavy Trucks:	52.7	52.1	43.1	44.3	52.7	52.8
Vehicle Noise:	57.5	56.7	52.8	48.9	57.4	57.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Technology Drive
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,560 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,769 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	305	657
CNEL:	71	152	327	705

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Technology Drive
Road Segment: Old Laguna Canyon Road to I-5/SR-133 Undercrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,533 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,106 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.3	68.4	65.3	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	548
CNEL:	59	127	273	588

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Technology Drive
Road Segment: I-5/SR-133 to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,552 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,026 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	69.2	68.3	65.1	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	248	534
CNEL:	57	123	266	573

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Technology Drive
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,603 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	545 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.6	58.8	52.7	61.4	62.0
Medium Trucks:	55.4	54.7	48.3	46.8	55.3	55.5
Heavy Trucks:	56.2	55.6	46.6	47.9	56.2	56.3
Vehicle Noise:	63.5	62.6	59.4	54.7	63.3	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	222
CNEL:	24	51	111	239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Toledo Way
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,876 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	650 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.2	56.6	50.2	48.7	57.1	57.4
Heavy Trucks:	57.7	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	65.4	64.5	61.4	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	149	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Toledo Way
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	56.8	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.5	63.6	60.5	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	260
CNEL:	28	60	129	279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Toledo Way
Road Segment: Alton Parkway to Parker

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,030 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	497 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.5	59.7	53.6	62.3	62.9
Medium Trucks:	56.1	55.4	49.0	47.5	56.0	56.2
Heavy Trucks:	56.5	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	64.2	63.3	60.3	55.5	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	249
CNEL:	27	58	124	268

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: Keystone to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,918 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,231 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.9	58.3	51.9	50.3	58.8	59.0
Heavy Trucks:	59.8	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	67.0	66.1	62.9	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	178	383
CNEL:	41	88	191	411

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: Jeffrey Road to Keystone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,426 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,190 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	58.8	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.9	65.9	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	374
CNEL:	40	87	186	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: Culver Drive to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,569 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,119 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.4	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	66.6	65.7	62.5	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	167	359
CNEL:	39	83	179	386

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: Monroe to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,781 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,137 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	58.6	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.7	65.7	62.6	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	363
CNEL:	39	84	181	390

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: I-5 NB Off-Ramp to Monroe

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,404 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,106 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	357
CNEL:	38	82	178	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: Yale Avenue to Remington

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,594 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,039 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.0	58.4	49.4	50.7	59.0	59.1
Vehicle Noise:	66.3	65.4	62.2	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: Remington to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,786 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	972 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.1	61.3	55.3	63.9	64.5
Medium Trucks:	57.9	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	58.7	58.2	49.1	50.4	58.7	58.8
Vehicle Noise:	66.0	65.1	61.9	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	70	152	327
CNEL:	35	76	163	351

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Ridge Drive
Road Segment: Federation Way to Bonita Canyon
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,959 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,729 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.3
Vehicle Noise:	68.5	67.6	64.4	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	223	480
CNEL:	52	111	239	515

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Rock Drive
Road Segment: Ridgeline to Willowleaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,839 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	729 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.32	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.56	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.52	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.8	50.7	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	252
CNEL:	27	58	126	271

Saturday, March 2, 2024

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Rock Drive
Road Segment: Silkwood to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,790 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	725 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.35	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.58	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.54	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	251
CNEL:	27	58	125	270

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Rock Drive
Road Segment: Canyon Park to Ridgeline
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,358 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	607 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.12	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.31	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	223
CNEL:	24	52	111	239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Rock Drive
Road Segment: Sunnyhill to Southernwood
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,664 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	302 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.15	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-28.34	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	70	150

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Rock Drive
Road Segment: Campus Drive to Hillgate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,303 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	602 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	56.7	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	63.9	63.0	59.8	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	238
CNEL:	26	55	118	255

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Rock Drive
Road Segment: Paseo Segovia to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,071 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	336 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.69	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-23.93	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-27.88	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	65.2	64.3	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	185
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Golden Glow to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,486 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,588 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.3	62.2	70.8	71.4
Medium Trucks:	64.7	64.0	57.6	56.1	64.5	64.8
Heavy Trucks:	65.1	64.5	55.5	56.7	65.1	65.2
Vehicle Noise:	72.8	71.9	68.8	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	432	931
CNEL:	100	215	464	1,000

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Ridgeline to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,139 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,384 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.01	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.23	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-17.18	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.4	71.5	68.4	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	486	1,048
CNEL:	113	243	522	1,126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Culver Drive to Golden Glow
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,225 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,484 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.5	63.9	57.5	56.0	64.4	64.7
Heavy Trucks:	64.9	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	72.7	71.7	68.7	63.9	72.5	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	197	424	913
CNEL:	98	211	455	981

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Yale Avenue to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,727 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,112 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.7	61.6	70.2	70.8
Medium Trucks:	64.0	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.5	63.9	54.8	56.1	64.4	64.6
Vehicle Noise:	72.2	71.3	68.2	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	182	393	847
CNEL:	91	196	422	910

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,931 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.67	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	120	259	557	1,200
CNEL:	129	278	599	1,289

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Mesa to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,258	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,816	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.41	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.83	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.79	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.2	65.6	59.2	57.7	66.1	66.4
Heavy Trucks:	66.6	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.4	73.4	70.4	65.6	74.2	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	528	1,137
CNEL:	122	263	567	1,222

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,885 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,868 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.47	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.77	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.73	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.7	69.9	63.8	72.5	73.1
Medium Trucks:	66.3	65.6	59.3	57.7	66.2	66.4
Heavy Trucks:	66.7	66.1	57.1	58.3	66.7	66.8
Vehicle Noise:	74.4	73.5	70.5	65.7	74.2	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	247	532	1,147
CNEL:	123	266	572	1,233

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: California Avenue to Mesa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,113 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,722 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.30	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.94	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.90	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	66.1	65.5	59.1	57.5	66.0	66.2
Heavy Trucks:	66.5	66.0	56.9	58.2	66.5	66.6
Vehicle Noise:	74.3	73.3	70.3	65.5	74.1	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	241	519	1,118
CNEL:	120	259	558	1,201

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,009 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,136 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.4	61.8	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.6	69.6	66.6	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	191	412	887
CNEL:	95	205	443	954

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,520 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,693 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.12	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-17.36	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-21.32	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.1	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	609
CNEL:	65	141	304	655

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,513 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,847 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	832
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: San Joaquin to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,679 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,531 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	769
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Harvard Avenue to San Joaquin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,550 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,520 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.7	68.3
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	767
CNEL:	82	178	383	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Valley Oak Drive
Road Segment: Hawkcreek to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,837 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,142 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.03	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.9	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	201	434
CNEL:	47	100	216	466

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Valley Oak Drive
Road Segment: Irvine Center Drive to Oak Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,291 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,014 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.35	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-19.59	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-23.54	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	69.3	68.3	65.3	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	201	433
CNEL:	47	100	216	465

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Valley Oak Drive
Road Segment: Barranca Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,266 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	929 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.9	66.0	63.0	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	176	378
CNEL:	41	88	189	406

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Valley Oak Drive
Road Segment: Alton Parkway to Hawkcreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,590 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	544 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	56.5	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	64.6	63.7	60.6	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	123	265
CNEL:	28	61	132	284

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Marriott to Morse Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,487 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,928 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	63.5	62.9	53.9	55.2	63.5	63.6
Vehicle Noise:	70.8	69.9	66.7	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	317	682
CNEL:	73	158	340	732

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Michelson Drive to Quartz

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,303 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,830 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.6	69.7	66.6	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	667
CNEL:	72	154	332	716

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,736 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,783 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.1
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	306	660
CNEL:	71	152	328	708

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,710 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,441 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.42	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.82	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	84.25	-17.78	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.0
Vehicle Noise:	70.2	69.3	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	80	173	373	803

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Main Street to Anchor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,066 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,728 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.4	61.7	55.3	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.5	69.5	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	651
CNEL:	70	150	324	698

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Anchor to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,904 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,632 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.2	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	70.3	69.4	66.2	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	295	636
CNEL:	68	147	316	682

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Morse to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,079 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,481 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.6
Medium Trucks:	62.0	61.3	54.9	53.4	61.9	62.1
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.0	69.1	66.0	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	284	611
CNEL:	66	141	304	656

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Martin to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,978	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,143	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.4
Heavy Trucks:	62.2	61.6	52.5	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	554
CNEL:	59	128	276	595

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Campus Drive to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,324 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,089 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	69.3	68.4	65.2	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	545
CNEL:	58	126	271	584

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,306 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,088 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	69.3	68.4	65.2	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	545
CNEL:	58	126	271	584

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Jeffrey Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,873 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,877 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.5	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	70.7	69.8	66.6	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	313	674
CNEL:	72	156	336	723

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Myford Road to Jamboree Road SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,422 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,932 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.9	60.2	53.8	52.3	60.8	61.0
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.0	68.1	64.9	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	240	517
CNEL:	55	120	258	555

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: The Mall Street to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,556 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,778 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	489
CNEL:	52	113	244	525

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Harvard Avenue to The Mall Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,771 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	488
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Franciscan Street to Ravenwood Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,217 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,668 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	218	469
CNEL:	50	108	233	503

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Ravenwood Street to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,725 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,627 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.03	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	214	461
CNEL:	49	107	230	495

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Culver Drive to Franciscan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,522 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,611 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.9	60.3	51.3	52.6	60.9	61.0
Vehicle Noise:	68.2	67.3	64.1	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	458
CNEL:	49	106	228	491

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Peters Canyon Road to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,432 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,181 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.8	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	585
CNEL:	63	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Jamboree Road NB Off-Ramp to Peters Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,325	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,089	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.6	66.2
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	264	568
CNEL:	61	131	283	610

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Yale Avenue to Kazan Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,195 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,254 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	416

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Wisteria to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,856 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,226 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.7	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	67.0	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	382
CNEL:	41	88	190	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Warner Avenue
Road Segment: Jamboree Road SB Off-ramp to Construction North
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,958 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,389 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.9	69.0	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	128	277	596
CNEL:	64	138	297	639

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Warner Avenue
Road Segment: Construction North to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,168 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,664 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Warner Avenue
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,205 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,172 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	66.8	65.9	62.7	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	371
CNEL:	40	86	185	398

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Warner Avenue
Road Segment: Santa Ynez to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,717 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	967 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	57.9	57.2	50.8	49.3	57.8	58.0
Heavy Trucks:	58.7	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	66.0	65.0	61.9	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	70	151	326
CNEL:	35	75	162	350

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Warner Avenue
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,973 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	905 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.8	61.0	54.9	63.6	64.2
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.4	57.8	48.8	50.1	58.4	58.5
Vehicle Noise:	65.7	64.8	61.6	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	312
CNEL:	33	72	155	335

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Alton Parkway to Blue Lake North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,360 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	772 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	55.7	55.0	48.6	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	107	231
CNEL:	25	53	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Eagle Run to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,015 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	744 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.5	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.5	54.8	48.5	46.9	55.4	55.6
Heavy Trucks:	56.8	56.2	47.2	48.5	56.8	56.9
Vehicle Noise:	63.5	62.7	59.4	54.8	63.4	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	112	242

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Thunder Run to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,484 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	782 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.1	48.7	47.2	55.6	55.8
Heavy Trucks:	57.0	56.5	47.4	48.7	57.0	57.2
Vehicle Noise:	63.8	62.9	59.6	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Main Street to Timber Run
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,261 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	599 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	59.5	57.8	51.7	60.3	60.9
Medium Trucks:	54.6	53.9	47.5	46.0	54.5	54.7
Heavy Trucks:	55.9	55.3	46.3	47.5	55.9	56.0
Vehicle Noise:	62.6	61.7	58.4	53.9	62.4	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	42	91	195
CNEL:	21	45	97	209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Yale Avenue to Shorebird

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,013 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	661 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	60.0	58.2	52.1	60.8	61.4
Medium Trucks:	55.0	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.0	62.1	58.9	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	209
CNEL:	22	48	104	223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Warner Avenue to Stonecreek South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,018 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	579 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	54.4	53.8	47.4	45.8	54.3	54.5
Heavy Trucks:	55.7	55.2	46.1	47.4	55.7	55.9
Vehicle Noise:	62.5	61.6	58.3	53.7	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	191
CNEL:	20	44	95	204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,549 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.9	45.8	47.1	55.4	55.5
Vehicle Noise:	62.2	61.3	58.0	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	182
CNEL:	20	42	91	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Stonecreek North to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,875 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	567 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.3	57.5	51.5	60.1	60.7
Medium Trucks:	54.3	53.7	47.3	45.8	54.2	54.5
Heavy Trucks:	55.7	55.1	46.0	47.3	55.6	55.8
Vehicle Noise:	62.4	61.5	58.2	53.6	62.2	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	87	188
CNEL:	20	43	94	202

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Birdsong to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,637 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	548 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.4	51.3	59.9	60.6
Medium Trucks:	54.2	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.5	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	62.2	61.3	58.0	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	85	184
CNEL:	20	42	91	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Westwood
Road Segment: Yorktown to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,031 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	498 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.89	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-21.13	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-25.08	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.3	54.6	48.2	46.7	55.2	55.4
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	63.3	62.4	59.0	54.6	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	130
CNEL:	14	30	64	139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Westwood
Road Segment: Bryan Avenue to Leaf
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,919 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	323 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.76	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.00	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.96	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	53.4	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	55.2	54.7	45.6	46.9	55.2	55.4
Vehicle Noise:	61.4	60.5	57.1	52.7	61.2	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	45	97
CNEL:	10	22	48	104

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Deerfield Avenue to Winvale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,502 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	866 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.81	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.77	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Hicks Canyon Drive to Meadowood
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,828 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	646 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.85	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.09	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.04	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Walnut Avenue to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,197 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,254 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.97	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.21	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-22.16	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.8	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.7	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	70.9	70.0	66.8	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	207	446
CNEL:	48	103	222	479

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,306 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,180 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,416 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,107 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	357
CNEL:	38	82	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: West Yale Loop to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,658 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,044 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.0	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	66.3	65.4	62.2	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	343
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Winvale Avenue to Karen Ann Lane
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,524 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	868 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.5	64.6	61.4	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	33	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Karen Ann Lane to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,524 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	868 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.5	64.6	61.4	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	33	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Trabuco Road to Southwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,332 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	852 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.7	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	139	300
CNEL:	32	69	149	322

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Southwood to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,807 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	809 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	65.2	64.3	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	134	289
CNEL:	31	67	144	311

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Northwood to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,199 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	759 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	56.8	56.2	49.8	48.2	56.7	56.9
Heavy Trucks:	57.7	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	64.9	64.0	60.8	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	129	277
CNEL:	30	64	138	298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,895 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	734 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.7	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	64.8	63.8	60.7	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	126	271
CNEL:	29	63	135	291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Irvine Boulevard to Park Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,432 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	613 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	56.7	56.2	47.1	48.4	56.7	56.8
Vehicle Noise:	64.0	63.1	59.9	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	56	120	258

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: University Drive to Royce

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,006 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	331 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.76	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-24.00	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-27.95	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.3	58.6	52.5	61.1	61.8
Medium Trucks:	55.2	54.5	48.1	46.6	55.1	55.3
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	63.2	62.3	59.2	54.5	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	172
CNEL:	18	40	86	185

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Court
Road Segment: Arborwood to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,472 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	534 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.12	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-19.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-23.32	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.2	54.4	48.4	57.0	57.6
Medium Trucks:	52.1	51.4	45.1	43.5	52.0	52.2
Heavy Trucks:	55.3	54.7	45.7	46.9	55.3	55.4
Vehicle Noise:	60.1	59.3	55.4	51.5	60.0	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Ada
Road Segment: Barranca Parway to Marine Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,902 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.35	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-15.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-19.84	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	70.5	69.6	66.3	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	394
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Ada
Road Segment: Alton Parkway to Barranca PArkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,443 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,594 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.9	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	62.3	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	69.0	68.1	64.8	60.3	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	241	519
CNEL:	56	120	258	556

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Enterprise to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	76,615 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,321 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.9	70.8	69.1	63.0	71.6	72.2
Medium Trucks:	65.5	64.8	58.4	56.9	65.4	65.6
Heavy Trucks:	65.9	65.3	56.3	57.5	65.9	66.0
Vehicle Noise:	73.6	72.7	69.6	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	305	657	1,416
CNEL:	152	328	706	1,521

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: I-5 NB Off-Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	80,851 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,670 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.83	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.41	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.36	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	66.1	65.4	59.1	57.5	66.0	66.2
Heavy Trucks:	66.5	65.9	56.9	58.2	66.5	66.6
Vehicle Noise:	74.2	73.3	70.3	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	149	321	691	1,489
CNEL:	160	345	742	1,600

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,166 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,654 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.1	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	353	761
CNEL:	82	176	380	818

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Gateway Boulevard to Enterprise

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,610	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,845	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.7	63.1	54.1	55.4	63.7	63.8
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	219	472	1,017
CNEL:	109	235	507	1,092

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Jeffrey Road to Royal Oak

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,401 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,096 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.7	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.5	69.5	66.5	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	650
CNEL:	70	151	324	699

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Daimler Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,851 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,050 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	298	641
CNEL:	69	148	320	689

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,627 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,032 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	637
CNEL:	68	147	318	685

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: West Yale Loop to Lake Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,512 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,022 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	69.0
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	295	635
CNEL:	68	147	317	682

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,987 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,124 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.74	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.49	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.45	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	64.0	63.4	57.0	55.4	63.9	64.1
Heavy Trucks:	64.4	63.9	54.8	56.1	64.4	64.6
Vehicle Noise:	72.2	71.2	68.2	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	502	1,081
CNEL:	116	250	539	1,161

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Creek Road to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,159 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,993 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	292	629
CNEL:	68	146	314	676

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Red Hill Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,510 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,940 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	618
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,987 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,896 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	609
CNEL:	65	141	303	654

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Telemetry to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,913 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.0
Heavy Trucks:	62.3	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.1	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	284	612
CNEL:	66	142	305	658

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Irvine Boulevard to Commercentre

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,024 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,137 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.4	61.8	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.6	69.6	66.6	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	191	412	888
CNEL:	95	205	443	954

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Jenner to Telemetry

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,846 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,885 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	281	606
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Irvine Center Drive to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,281 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,241 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	907
CNEL:	97	210	452	975

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Sand Canyon Avenue to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,094 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,060 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.45	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.79	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.75	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.6	68.9	62.8	71.4	72.1
Medium Trucks:	65.3	64.6	58.2	56.7	65.2	65.4
Heavy Trucks:	65.7	65.1	56.1	57.3	65.7	65.8
Vehicle Noise:	73.4	72.5	69.4	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	211	456	981
CNEL:	105	227	489	1,054

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Laguna Canyon Road to Jenner

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,385 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,847 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	277	598
CNEL:	64	138	298	642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Technology Drive East to Barranca Pkwy/Muirlands Blvd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,771 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,116 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.53	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.71	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.67	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	884
CNEL:	95	205	441	950

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Royal Oak to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,298 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,757 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.7	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	268	578
CNEL:	62	134	288	621

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,046 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,736 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	124	266	574
CNEL:	62	133	286	616

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Barranca Pkwy/Muirlands Blvd to Jeronimo Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,513 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,765 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.19	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	816
CNEL:	88	189	407	877

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Ada to Technology Drive East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,803 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	823
CNEL:	88	191	411	885

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,636 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,620 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.6	61.0	52.0	53.3	61.6	61.7
Vehicle Noise:	69.3	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	548
CNEL:	59	127	273	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Jeronimo Road to Hughes

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,590 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	363	781
CNEL:	84	181	390	839

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Hughes to Morgan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,451 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.75	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.71	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	753
CNEL:	81	174	376	809

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Morgan to Toledo Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,095	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,070	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.5	51.4	52.7	61.0	61.1
Vehicle Noise:	68.8	67.8	64.8	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	673
CNEL:	72	156	336	723

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: San Marino to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,417 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,097 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.7	60.0	53.6	52.1	60.6	60.8
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	315	679
CNEL:	73	157	338	729

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,653 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,034 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.7	67.8	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	309	665
CNEL:	71	154	332	714

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Hospital to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,790 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,045 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.70	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.54	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.50	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.5	62.9	56.5	54.9	63.4	63.6
Heavy Trucks:	63.9	63.4	54.3	55.6	63.9	64.0
Vehicle Noise:	71.7	70.7	67.7	62.9	71.5	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	348	750
CNEL:	81	174	374	806

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,843 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,967 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.53	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.71	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.66	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.1	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	731
CNEL:	79	169	364	785

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Murphy Avenue to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,566 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,944 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	60.8	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.6	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	300	645
CNEL:	69	149	322	693

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Foster to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,154	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,910	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.40	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.1
Medium Trucks:	60.3	59.6	53.2	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	638
CNEL:	69	148	318	685

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Fairbanks to Foster

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,916 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,808 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.4	53.0	51.5	59.9	60.1
Heavy Trucks:	60.5	59.9	50.8	52.1	60.4	60.6
Vehicle Noise:	68.2	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	615
CNEL:	66	142	307	661

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Toledo Way to Bertea

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,840 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	613
CNEL:	66	142	306	659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Pacifica to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,678 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,871 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.31	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.93	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.88	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.3	70.3	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	152	328	707
CNEL:	76	164	353	759

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Bertea to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,315	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,758	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Meridian to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,601 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,700 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	59.8	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	63.9	59.1	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	590
CNEL:	63	137	294	634

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Paseo Westpark to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,504 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,692 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	59.7	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	67.9	67.0	63.9	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	588
CNEL:	63	136	293	632

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,861 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,474 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.4	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	536
CNEL:	58	124	268	576

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Astor
Road Segment: Lynx to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,393 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,600 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.85	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-15.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-19.34	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	66.7	65.9	62.2	58.1	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	222
CNEL:	24	51	110	236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Astor
Road Segment: Cadence to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,767 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,218 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.67	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-16.57	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-20.53	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.6	56.9	50.5	49.0	57.4	57.7
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	65.6	64.7	61.1	56.9	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	185
CNEL:	20	42	91	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: I-5 NB Off-Ramp to Rockfield Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	95,631 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,890 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-10.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-14.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.7	73.6	71.8	65.8	74.4	75.0
Medium Trucks:	68.2	67.5	61.2	59.6	68.1	68.3
Heavy Trucks:	68.6	68.0	59.0	60.3	68.6	68.7
Vehicle Noise:	76.4	75.4	72.4	67.6	76.2	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	257	554	1,194	2,572
CNEL:	276	595	1,282	2,763

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Muirlands Boulevard to Jeronimo Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,319 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,059 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.5	63.8	57.5	55.9	64.4	64.6
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	72.6	71.7	68.7	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	263	567	1,221
CNEL:	131	283	609	1,312

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Rockfield Boulevard to Muirlands Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,285	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,468	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.97	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.27	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.22	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.2	64.2	72.8	73.4
Medium Trucks:	66.6	66.0	59.6	58.1	66.5	66.7
Heavy Trucks:	67.0	66.5	57.4	58.7	67.0	67.2
Vehicle Noise:	74.8	73.8	70.8	66.0	74.6	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	201	434	935	2,014
CNEL:	216	466	1,004	2,164

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Jeronimo Road to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,538 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,087 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.4
Medium Trucks:	63.6	62.9	56.5	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.7	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	228	491	1,059
CNEL:	114	245	528	1,138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Toledo Way to Cromwell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,757 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,775 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.36	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.83	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.3
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.4	70.4	67.4	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	466	1,004
CNEL:	108	232	501	1,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Cromwell to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,473 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,752 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	215	464	1,000
CNEL:	107	232	499	1,075

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Research Drive to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,172 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,324 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.94	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.1	60.5	54.1	52.5	61.0	61.2
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.6
Vehicle Noise:	69.3	68.3	65.3	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	337	727
CNEL:	78	168	362	781

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Irvine Center Drive to Research Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,545 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	787 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-20.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-24.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.4	55.8	49.4	47.8	56.3	56.5
Heavy Trucks:	56.8	56.3	47.2	48.5	56.8	56.9
Vehicle Noise:	64.6	63.6	60.6	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	353
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Lake Forest Drive to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,811 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	562 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-22.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-26.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.3	58.6	52.5	61.1	61.7
Medium Trucks:	55.0	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	63.1	62.2	59.1	54.3	62.9	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	282
CNEL:	30	65	141	303

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Banting
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	448 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-21.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-25.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.7	56.6	54.9	48.8	57.4	58.1
Medium Trucks:	51.9	51.3	44.9	43.3	51.8	52.0
Heavy Trucks:	53.8	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	59.9	59.1	55.6	51.2	59.8	60.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	130
CNEL:	14	30	64	138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Pacifica to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,247 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,825 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	432	932
CNEL:	100	216	465	1,002

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,312	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,583	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.2	63.6	57.2	55.6	64.1	64.3
Heavy Trucks:	64.3	63.7	54.6	55.9	64.2	64.4
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	877
CNEL:	94	203	438	944

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: I-5 HOV Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,030 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,560 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	68.0	61.9	70.5	71.1
Medium Trucks:	64.2	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	72.4	71.4	68.5	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	872
CNEL:	94	202	436	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,409 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,509 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.1
Medium Trucks:	64.1	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.1	63.5	54.5	55.8	64.1	64.2
Vehicle Noise:	72.3	71.4	68.4	63.5	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	861
CNEL:	93	199	430	926

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Irvine Center Drive to I-5 HOV Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,916 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,386 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.95	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.7	61.6	70.2	70.8
Medium Trucks:	63.9	63.2	56.8	55.3	63.8	64.0
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	72.1	71.1	68.2	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	832
CNEL:	90	193	416	895

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,904 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,302 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.4	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	377	813
CNEL:	87	188	406	874

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,289 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,251 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.7
Heavy Trucks:	63.7	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	372	801
CNEL:	86	186	400	861

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,674 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,201 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.6
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	848

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Ada to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,859 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,216 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.9	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	792
CNEL:	85	184	396	852

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,910	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,055	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	753
CNEL:	81	175	376	811

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Red Hill Avenue to Armstrong Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,771 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,941 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.13	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.10	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.06	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	70.0	63.9	72.5	73.1
Medium Trucks:	66.2	65.5	59.2	57.6	66.1	66.3
Heavy Trucks:	66.2	65.6	56.6	57.9	66.2	66.3
Vehicle Noise:	74.4	73.5	70.5	65.6	74.2	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	190	409	882	1,900
CNEL:	204	440	949	2,044

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Discovery/Herchel to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,148 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,992 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.5	53.5	54.8	63.1	63.2
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	738
CNEL:	79	171	368	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Lyon to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,579 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,945 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	71.2	70.3	67.3	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	156	337	726
CNEL:	78	168	363	781

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Creek Road to Lyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,163 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,911 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	71.1	70.2	67.2	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	333	718
CNEL:	77	166	358	772

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,461 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,421 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.52	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.72	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.68	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	68.0	61.9	70.6	71.2
Medium Trucks:	64.2	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.2	63.6	54.6	55.9	64.2	64.3
Vehicle Noise:	72.4	71.5	68.5	63.6	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	241	520	1,119
CNEL:	120	259	559	1,204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Barranca Parkway
Job Number: 15937
Road Segment: Sand Canyon Avenue to Laguna Canyon Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,188 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,665 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.3	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	141	304	655
CNEL:	70	152	327	705

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Armstrong Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,551 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,180 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.20	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.04	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.99	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.7	61.6	70.2	70.8
Medium Trucks:	63.9	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	72.1	71.1	68.2	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	495	1,066
CNEL:	115	247	532	1,147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,557 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,613 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	298	641
CNEL:	69	149	320	690

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Jamboree Road to Construction Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,326 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,584 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.5
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.8	69.8	66.9	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	197	425	915
CNEL:	98	212	457	985

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Santa Rosa to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,197 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,491 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.4	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	70.6	69.7	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	415	893
CNEL:	96	207	446	961

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: FedEx to Discovery/Herchel

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,670 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,458 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	61.8	61.2	52.1	53.4	61.8	61.9
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	599
CNEL:	64	139	299	645

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Jeffrey Road to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,571 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,450 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	61.7	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.9	69.0	66.0	61.1	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	277	597
CNEL:	64	138	298	642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Laguna Canyon Road to FedEx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,419 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	589
CNEL:	63	136	294	633

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Pullman Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,452 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,090 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.08	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-15.16	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-19.12	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.2	64.6	55.5	56.8	65.2	65.3
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	162	348	750	1,615
CNEL:	174	374	807	1,738

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Construction Circle to Fire Station

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,431 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,263 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	69.0
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	389	838
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Fire Station to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,431 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,263 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	69.0
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	389	838
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Paseo Westpark to Santa Rosa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,247 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	387	834
CNEL:	90	193	416	897

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,071 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,068 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.6	61.1	52.0	53.3	61.6	61.7
Vehicle Noise:	69.8	68.9	65.9	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	849

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bay Tree
Road Segment: Trabuco Road to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,742 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	226 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.7	53.7	51.9	45.9	54.5	55.1
Medium Trucks:	49.0	48.3	41.9	40.4	48.8	49.1
Heavy Trucks:	50.8	50.2	41.2	42.4	50.8	50.9
Vehicle Noise:	57.0	56.1	52.6	48.3	56.8	57.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	41	88

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Beacon
Road Segment: Ridge Valley to Benchmark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,509 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	290 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.57	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-22.81	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-26.77	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.8	55.7	54.0	47.9	56.5	57.2
Medium Trucks:	51.3	50.6	44.3	42.7	51.2	51.4
Heavy Trucks:	53.8	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	59.3	58.5	54.8	50.6	59.1	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	71
CNEL:	8	16	35	76

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Benchmark (LN Street)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,745 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	144 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.61	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.85	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.80	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.8	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	48.3	47.6	41.3	39.7	48.2	48.4
Heavy Trucks:	50.8	50.2	41.1	42.4	50.7	50.9
Vehicle Noise:	56.3	55.4	51.8	47.6	56.1	56.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	10	21	44
CNEL:	5	10	22	47

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bison Avenue
Road Segment: SR-73 NB Off-Ramp to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,126 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.2
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	256	551
CNEL:	59	127	274	591

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bonita Canyon Drive
Road Segment: MacArthur Boulevard to SR-73

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,737 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,536 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.63	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.61	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-19.56	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	727
CNEL:	78	168	363	781

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bonita Canyon Drive
Road Segment: Turtle Ridge to Shady Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,728 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,710 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.08	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.32	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.27	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.6	60.0	50.9	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.3	59.5	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	260	559
CNEL:	60	129	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bonita Canyon Drive
Road Segment: Newport Coast Drive to Turtle Ridge
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,103 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,576 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.43	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.67	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.63	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	530
CNEL:	57	123	264	569

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bonita Canyon Drive
Road Segment: SR-73 NB Off-Ramp to Newport Coast Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,113 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,494 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.66	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.90	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.86	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.6	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	237	511
CNEL:	55	118	255	549

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bosque
Road Segment: Cadence to Great Park Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,836 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,059 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.06	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-17.18	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-21.14	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	57.0	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	65.0	64.1	60.4	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	78	168
CNEL:	18	39	83	179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bosque
Road Segment: Irvine Boulevard to Benchmark (LN Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,601 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.68	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-18.92	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-22.87	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.6	57.9	51.8	60.4	61.0
Medium Trucks:	55.2	54.5	48.2	46.6	55.1	55.3
Heavy Trucks:	57.7	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	63.2	62.3	58.7	54.5	63.0	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	129
CNEL:	14	30	64	137

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bosque
Road Segment: Benchmark to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,908 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	652 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-2.04	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.28	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.24	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.3	57.5	51.5	60.1	60.7
Medium Trucks:	54.8	54.2	47.8	46.3	54.7	55.0
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	62.8	62.0	58.3	54.2	62.7	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bosque
Road Segment: Great Park Boulevard to Beacon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,828 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	151 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.41	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.64	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.60	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	52.9	51.2	45.1	53.7	54.3
Medium Trucks:	48.5	47.8	41.5	39.9	48.4	48.6
Heavy Trucks:	51.0	50.4	41.3	42.6	50.9	51.1
Vehicle Noise:	56.5	55.6	52.0	47.8	56.3	56.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	21	46
CNEL:	5	11	23	49

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bosque
Road Segment: Beacon to S 5th Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,591 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	131 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-9.01	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-26.25	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-30.20	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.4	52.3	50.5	44.5	53.1	53.7
Medium Trucks:	47.9	47.2	40.9	39.3	47.8	48.0
Heavy Trucks:	50.4	49.8	40.7	42.0	50.3	50.5
Vehicle Noise:	55.9	55.0	51.4	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Jamboree Road to Market Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,962 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,812 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.4	60.9	51.8	53.1	61.4	61.6
Vehicle Noise:	68.7	67.8	64.6	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	230	495
CNEL:	53	115	247	532

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Market Place to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,782 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	227	490
CNEL:	53	113	244	526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Rubicon to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,545 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,777 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	489
CNEL:	52	113	244	525

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: El Camino Real to Rubicon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,404 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,766 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	68.6	67.7	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	487
CNEL:	52	113	243	522

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Eastwood to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,773	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,136	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	58.6	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.7	65.7	62.6	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	363
CNEL:	39	84	181	389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Westwood to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,845	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,060	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.3	57.6	51.2	49.7	58.2	58.4
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.4	65.4	62.3	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	161	347
CNEL:	37	80	173	372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Culver Drive to Westwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,666 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,045 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.1	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	66.3	65.4	62.2	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	343
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Yale Avenue to Eastwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,224 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,008 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.1	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	335
CNEL:	36	77	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Cadence
Road Segment: Pusan to Chinon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,990 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	577 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.83	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.07	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-25.02	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.3	64.4	61.2	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	83	178
CNEL:	19	41	88	190

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Cadence
Road Segment: Bosque to Pusan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,549 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.11	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.35	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-25.31	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	57.0	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.9	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Cadence
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,745 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	391 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.51	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.75	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.71	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.6	58.8	52.7	61.4	62.0
Medium Trucks:	55.6	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	63.6	62.7	59.5	54.9	63.5	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	137
CNEL:	15	32	68	147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Cadence
Road Segment: Chinon to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,194 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	264 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.23	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-24.47	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-28.43	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.9	57.1	51.0	59.7	60.3
Medium Trucks:	53.9	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	55.2	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	61.9	61.0	57.8	53.2	61.7	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	49	105
CNEL:	11	24	52	113

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Cadence
Road Segment: Merit to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.97	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-27.21	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-31.16	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.1	54.3	48.3	56.9	57.5
Medium Trucks:	51.2	50.5	44.1	42.6	51.0	51.3
Heavy Trucks:	52.5	51.9	42.8	44.1	52.4	52.6
Vehicle Noise:	59.2	58.3	55.0	50.5	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	74

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: California Avenue
Road Segment: University Drive to Academy Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,819 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,305 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	59.3	58.7	49.6	50.9	59.3	59.4
Vehicle Noise:	66.0	65.1	61.8	57.3	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	152	328
CNEL:	35	76	163	351

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: California Avenue
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,927 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	819 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.9	55.3	48.9	47.4	55.8	56.0
Heavy Trucks:	57.2	56.7	47.6	48.9	57.2	57.4
Vehicle Noise:	64.0	63.1	59.8	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	55	120	258

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: California Avenue
Road Segment: Theory to Bison Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,277 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	765 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	55.6	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	57.0	56.4	47.3	48.6	56.9	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	107	230
CNEL:	25	53	114	246

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Carlson Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,558 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,356 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.31	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-15.93	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-19.88	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.8	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	353	759
CNEL:	82	176	379	816

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: University Drive to Bridge Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,269 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,662 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.84	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	763
CNEL:	82	177	380	820

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Jamboree Road to Carlson Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,078 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,481 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.2	69.8
Medium Trucks:	63.1	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.2	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	728
CNEL:	78	169	363	782

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Stanford Court to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,269 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.5
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.8	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	318	686
CNEL:	74	159	342	737

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: California Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,527 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,188 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	311	669
CNEL:	72	155	334	719

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Berkeley Avenue to Cornell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,299 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,757 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.7	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	268	578
CNEL:	62	134	288	621

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Martin to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,910 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,395 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.7	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	230	496
CNEL:	53	115	247	533

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Campus Drive
Job Number: 15937
Road Segment: Culver Drive to Paseo Montoya (Turtle Rock Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,918 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,313 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	238	512

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Von Karman Avenue to Teller Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,558 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,201 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	208	449
CNEL:	48	104	224	482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: MacArthur Boulevard to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,164	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,169	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	205	441
CNEL:	47	102	220	473

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Teller Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,947 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	986 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	59.1	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.5	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	67.2	66.3	63.2	58.4	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	393
CNEL:	42	91	196	423

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Carlson Avenue
Road Segment: Michelson Drive to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,196 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,089 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.6	66.7	63.7	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	195	420
CNEL:	45	97	210	452

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Chinon
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,756 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	392 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.46	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-20.70	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-24.66	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.9	54.8	53.1	47.0	55.6	56.3
Medium Trucks:	50.7	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	54.0	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	58.8	58.0	54.0	50.1	58.6	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	14	30	65
CNEL:	7	15	32	70

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Creek Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,726	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	390	vehicles
Vehicle Speed:	25	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-20.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-24.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	51.9	50.2	44.1	52.7	53.3
Medium Trucks:	47.8	47.2	40.8	39.3	47.7	47.9
Heavy Trucks:	51.0	50.5	41.4	42.7	51.0	51.2
Vehicle Noise:	55.9	55.0	51.1	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	70
CNEL:	7	16	34	74

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,011 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,033 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.4	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.7	69.8	64.9	73.5	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	154	331	713	1,536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,757	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,930	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.13	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.09	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.3	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.6	69.7	64.8	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	303	654	1,408
CNEL:	151	326	703	1,515

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,014 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.18	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.06	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.02	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.3	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.6	72.7	69.8	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	307	661	1,424
CNEL:	153	330	711	1,532

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Scottsdale Drive to I-5 SB Off- Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,917 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,943 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.7	69.7	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	655	1,411
CNEL:	152	327	704	1,518

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: I-405 NB Off-Ramp to San Leandro

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,621 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,671 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.37	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.3	72.4	69.5	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	293	631	1,358
CNEL:	146	315	678	1,461

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: San Leandro to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,104 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,381 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	280	604	1,302
CNEL:	140	302	650	1,400

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Harvard Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,257 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,394 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	281	605	1,304
CNEL:	140	302	651	1,403

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Trabuco Road to Farwell Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,765 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,931 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.11	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.13	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.09	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.4	71.3	69.6	63.5	72.1	72.7
Medium Trucks:	65.8	65.1	58.8	57.2	65.7	65.9
Heavy Trucks:	65.8	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	74.0	73.1	70.1	65.2	73.8	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	154	331	713	1,537

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,477 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,247 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	127	275	592	1,275
CNEL:	137	295	637	1,371

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Main Street to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,071 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,131 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	270	581	1,252
CNEL:	135	290	625	1,346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Warner Avenue to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,906 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,035 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.2	70.9	71.5
Medium Trucks:	64.5	63.8	57.5	55.9	64.4	64.6
Heavy Trucks:	64.5	64.0	54.9	56.2	64.5	64.6
Vehicle Noise:	72.7	71.8	68.8	63.9	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	265	572	1,232
CNEL:	133	286	615	1,325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Walnut Avenue to Scottsdale Dive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,151 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,972 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.4	63.8	57.4	55.9	64.3	64.6
Heavy Trucks:	64.5	63.9	54.9	56.1	64.5	64.6
Vehicle Noise:	72.6	71.7	68.7	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	263	566	1,219
CNEL:	131	283	609	1,312

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,911 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.09	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.3	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	260	560	1,207
CNEL:	130	280	603	1,298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Shady Canyon Drive to Palo Verde

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,657 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,199 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	54.9	63.4	63.6
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	788
CNEL:	85	183	394	848

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Deerfield Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,374 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,661 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	249	536	1,155
CNEL:	124	268	577	1,242

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Sandburg Way to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,140 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,642 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,151
CNEL:	124	267	575	1,238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,966 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,545 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	63.9	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.1	71.2	68.3	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	243	525	1,130
CNEL:	122	262	564	1,216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Palo Verde to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,255 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,001 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	344	740
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: University Drive to Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,840	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,369	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	235	507	1,093
CNEL:	118	253	546	1,175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Farwell Avenue to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,881 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,868 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.05	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.19	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.14	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	262	564	1,215
CNEL:	131	282	607	1,307

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Campus Drive to High School

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,865	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,289	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.7	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	232	499	1,075
CNEL:	116	249	537	1,157

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: High School to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,227	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,236	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.9	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	494	1,064
CNEL:	114	247	531	1,144

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Bryan Avenue to Florence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,221 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,071 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.19	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.0	69.7	70.3
Medium Trucks:	63.3	62.7	56.3	54.7	63.2	63.4
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	221	477	1,027
CNEL:	110	238	513	1,105

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Portola Parkway to Settlers

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,951 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,811 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	692
CNEL:	74	161	346	745

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Florence to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,398	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,003	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.6	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	470	1,012
CNEL:	109	235	505	1,089

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Irvine Boulevard to Viewpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,898	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,302	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	847
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Viewpark to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,143	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,239	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.1	69.2	66.3	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	832
CNEL:	90	193	415	895

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Settlers to Furrow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,730	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	968	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.0	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	68.1	67.2	64.3	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	98	212	456
CNEL:	49	106	228	491

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Meadowood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,462 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,606 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.6
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	309	667
CNEL:	72	154	333	717

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Discovery Drive
Road Segment: Irvine Center Drive to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,370 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	773 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.1
Medium Trucks:	55.7	55.0	48.6	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	107	231
CNEL:	25	53	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Discovery Drive
Road Segment: Waterworks Way to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,968 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	410 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-22.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	52.9	52.3	45.9	44.3	52.8	53.0
Heavy Trucks:	54.2	53.7	44.6	45.9	54.2	54.3
Vehicle Noise:	61.0	60.1	56.8	52.2	60.8	61.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	70	152
CNEL:	16	35	75	162

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: East Yale Loop
Road Segment: Alton Parkway to Witherspoon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,294 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,097 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.2	64.3	61.1	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	292
CNEL:	31	67	145	313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: East Yale Loop
Road Segment: Osborn Street to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,601 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,040 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.0	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.8	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	282
CNEL:	30	65	140	302

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: East Yale Loop
Road Segment: Yale Avenue to Springbrook South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,442	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	944	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.5	59.7	53.7	62.3	62.9
Medium Trucks:	56.5	55.9	49.5	48.0	56.4	56.7
Heavy Trucks:	57.9	57.3	48.2	49.5	57.8	58.0
Vehicle Noise:	64.6	63.7	60.4	55.9	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	123	264
CNEL:	28	61	131	283

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: East Yale Loop
Road Segment: Springbrook North to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,475 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	699 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	60.2	58.4	52.4	61.0	61.6
Medium Trucks:	55.2	54.6	48.2	46.7	55.1	55.4
Heavy Trucks:	56.6	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.3	62.4	59.1	54.6	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	100	216
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: East Yale Loop
Road Segment: Woodspring to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,005 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	578 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	54.4	53.7	47.4	45.8	54.3	54.5
Heavy Trucks:	55.7	55.1	46.1	47.4	55.7	55.8
Vehicle Noise:	62.5	61.6	58.3	53.7	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	88	191
CNEL:	20	44	95	204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: East Yale Loop
Road Segment: Barranca Parkway to Eastshore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,576 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	543 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	55.5	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.2	61.3	58.0	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Eastwood
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,185 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	263 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.66	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.90	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.86	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.3	57.2	55.4	49.4	58.0	58.6
Medium Trucks:	52.5	51.8	45.5	43.9	52.4	52.6
Heavy Trucks:	54.3	53.8	44.7	46.0	54.3	54.5
Vehicle Noise:	60.5	59.6	56.2	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	85
CNEL:	9	20	42	91

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Eastwood
Road Segment: Columbus to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,983 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	164 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.72	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-25.96	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-29.92	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.2	55.2	53.4	47.3	56.0	56.6
Medium Trucks:	50.4	49.8	43.4	41.9	50.3	50.6
Heavy Trucks:	52.3	51.7	42.7	43.9	52.3	52.4
Vehicle Noise:	58.4	57.6	54.1	49.7	58.3	58.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	62
CNEL:	7	14	31	66

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: El Camino Real
Road Segment: Jamboree Road to Alliance (SR-261 Bridge)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,240 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,587 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.8	65.9	62.7	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	374
CNEL:	40	86	186	400

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: El Camino Real North
Road Segment: El Camino Real to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,482 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	535 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.3	51.2	59.8	60.5
Medium Trucks:	54.1	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	57.9	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Fairbanks
Road Segment: Alton Parkway to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,127 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,496 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.31	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-16.93	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-20.89	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.4	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	69.5	68.6	65.3	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	336
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Fairbanks
Road Segment: Irvine Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,449 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	780 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.52	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.76	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.72	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	66.6	65.7	62.5	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	217
CNEL:	23	50	108	233

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Fairchild Road
Road Segment: MacArthur Boulevard to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,131 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	588 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.6	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.8	62.9	59.7	55.1	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	109	234
CNEL:	25	54	117	251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Gateway Boulevard
Road Segment: Alton Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,949 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,316 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-16.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-20.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.7	51.6	60.2	60.9
Medium Trucks:	55.0	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	63.0	62.1	58.5	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	208
CNEL:	22	48	103	222

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Gateway Boulevard
Job Number: 15937
Road Segment: Spectrum Center Drive (Fortune Drive) to Alton Parkway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,089 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	997 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.3	58.2	56.5	50.4	59.0	59.6
Medium Trucks:	53.8	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	61.8	60.9	57.3	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	173
CNEL:	18	40	86	184

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Gateway Boulevard
Road Segment: Irvine Center Drive to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,154 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	508 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-3.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-20.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-24.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.3	53.5	47.5	56.1	56.7
Medium Trucks:	50.9	50.2	43.8	42.3	50.8	51.0
Heavy Trucks:	53.3	52.8	43.7	45.0	53.3	53.5
Vehicle Noise:	58.9	58.0	54.4	50.2	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	110
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Great Park Boulevard
Road Segment: Sand Canyon to Ridge Valley

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,334 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,658 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.22	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.02	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.97	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.8
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.5	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.2	73.3	70.2	65.4	74.0	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	238	513	1,105
CNEL:	119	256	551	1,187

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Great Park Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,850 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	599
CNEL:	64	139	299	643

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Great Park Boulevard (EB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,353 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	689 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.6	67.2
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	68.5	67.6	64.5	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	134	289
CNEL:	31	67	144	311

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Great Park Boulevard (WB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	616 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.51	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.75	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.70	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	269
CNEL:	29	62	134	289

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: University Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,728	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,875	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	12	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	37.5	feet
Centerline Dist. to Observer:	37.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.78	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-16.46	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-20.41	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.5	63.9	54.8	56.1	64.5	64.6
Vehicle Noise:	71.7	70.8	67.7	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	220	473
CNEL:	51	109	236	508

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Michelson Drive to Coronado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,921 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,551 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	70.2	69.3	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	668

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: San Marino to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,966 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,390 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.9	69.0	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	128	277	596
CNEL:	64	138	297	639

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Coronado to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,783 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,375 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.9	68.9	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	593
CNEL:	64	137	295	637

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: San Carlo to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,293 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,334 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.5	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	69.8	68.9	65.7	61.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	587
CNEL:	63	136	292	629

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Main Street to San Carlo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,778	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,292	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.6	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	62.5	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	69.7	68.8	65.6	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	269	580
CNEL:	62	134	289	622

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Alton Parkway to San Leon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	239	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: San Juan to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	239	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: San Leon to San Juan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,663 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.1	60.5	51.4	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,465 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,276 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.2	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	182	392
CNEL:	42	91	195	421

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Deerfield Avenue to Poplar Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,254 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	416

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,010 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	418
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Bridge Road to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,880 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,393 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.0
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	193	416
CNEL:	45	96	207	446

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Paseo Westpark to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,982 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,401 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	417
CNEL:	45	96	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Poplar Street to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,278 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,095 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.56	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-18.79	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-22.75	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.4	67.0
Medium Trucks:	60.4	59.7	53.3	51.8	60.3	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	178	383
CNEL:	41	88	191	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: California Avenue to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,831 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,224 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.7	59.2	50.1	51.4	59.7	59.8
Vehicle Noise:	67.0	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	381
CNEL:	41	88	190	409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Culver Drive to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,731 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,215 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.5
Medium Trucks:	58.9	58.2	51.8	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	380
CNEL:	41	88	189	407

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Berkeley to Bridge Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,456 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,193 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	66.9	66.0	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	375
CNEL:	40	87	187	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Warner Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,282 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,096 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Hicks Canyon Drive
Road Segment: Delamesa to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,206 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.26	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	75.75	-25.50	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	81.57	-29.45	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	50.0	49.3	42.9	41.4	49.9	50.1
Heavy Trucks:	51.8	51.2	42.2	43.5	51.8	51.9
Vehicle Noise:	58.0	57.1	53.7	49.3	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Hornet (5th St)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,383 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	279 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.94	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-22.18	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-26.13	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.4	53.4	51.6	45.5	54.2	54.8
Medium Trucks:	49.3	48.6	42.2	40.7	49.2	49.4
Heavy Trucks:	52.5	51.9	42.9	44.1	52.5	52.6
Vehicle Noise:	57.3	56.5	52.6	48.6	57.2	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	52
CNEL:	6	12	26	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Hubble
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,333 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	192 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.55	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.79	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.75	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.8	51.8	50.0	43.9	52.6	53.2
Medium Trucks:	47.7	47.0	40.6	39.1	47.5	47.8
Heavy Trucks:	50.9	50.3	41.2	42.5	50.8	51.0
Vehicle Noise:	55.7	54.9	51.0	47.0	55.5	55.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	41
CNEL:	4	9	20	43

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: SR-133 NB Off- Ramp to Ridge Valley (O Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,105	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,474	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	72.0	71.1	68.2	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	240	518	1,115
CNEL:	120	258	557	1,200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: SR-133 SB Off-Ramp to SR-133 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,055 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,387 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.9	71.0	68.1	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	236	509	1,096
CNEL:	118	254	547	1,179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Sand Canyon to SR-133 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,768 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.94	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.30	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.26	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.1	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	257	554	1,194
CNEL:	128	277	596	1,285

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Merit to Alton

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.3	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,001
CNEL:	108	232	500	1,077

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Journey to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,929 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	214	462	995
CNEL:	107	231	497	1,071

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,235 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,659 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.4	62.7	62.8
Vehicle Noise:	70.9	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	433	933
CNEL:	100	216	466	1,004

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Pusan Way to Chinon (B Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,080 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Palo Lado to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,566 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,604 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	920
CNEL:	99	213	459	990

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Culver Drive to Palo Lado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,307 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,583 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.5
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.8	69.8	66.9	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	197	425	915
CNEL:	98	212	457	985

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,683 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,531 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	419	903
CNEL:	97	209	451	971

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Old Myford Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,767	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,538	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.22	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	70.7	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	420	905
CNEL:	97	210	452	973

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Bosque (LY Street) to Modjeska

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,546 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,520 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	97	209	450	968

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Jamboree Road to Old Myford Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,131 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,486 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.4	61.9	52.8	54.1	62.4	62.5
Vehicle Noise:	70.6	69.7	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	414	892
CNEL:	96	207	445	960

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Market Place to SR-261 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,014 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,476 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.6	69.7	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	890
CNEL:	96	206	444	957

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Jeffrey Road to Groveland

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,333 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,420 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.5	69.6	66.6	61.7	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	876
CNEL:	94	203	438	943

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Bake Parkway to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,433 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,346 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.3	69.4	66.5	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	398	858
CNEL:	92	199	429	923

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Independence Way (The Groves)/The Groves to JeffreyRoad

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,351 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	859
CNEL:	92	199	429	925

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Chinon (B Street) to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: SR-261 NB Off-Ramp to Central Park

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,539 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,272 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	840
CNEL:	90	195	420	904

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Pueblo Norte to Independence Way (The Groves)/ Parkwood

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,740 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,206 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.1	69.1	66.2	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	824
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Yale Avenue to Pueblo Norte

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,562 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,191 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.0	69.1	66.2	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	820
CNEL:	88	190	410	882

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Modjeska to Pusan Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,148 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Central Park Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,022 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,982 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.5	60.9	51.8	53.1	61.4	61.6
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	767
CNEL:	83	178	383	825

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Parker to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,245	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,835	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	69.3	68.3	65.4	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	729
CNEL:	78	169	364	784

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Alton Parkway to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,955 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,481 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.3	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	632
CNEL:	68	146	315	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Irvine Center Drive
Job Number: 15937
Road Segment: Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,614 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,258 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.88	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.35	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.31	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.2	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.3	71.4	68.3	63.5	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	238	512	1,104
CNEL:	119	256	550	1,186

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Orange Tree to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,747 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,939 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.69	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.5	63.8	63.9
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	223	480	1,033
CNEL:	111	239	515	1,110

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: I-405 SB Off-Ramp to Research

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,681 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,851 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.45	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.79	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.75	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.7	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	64.1	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	71.9	70.9	67.9	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	222	479	1,032
CNEL:	111	239	515	1,109

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Irvine Valley College to Orange Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,642 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,848 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.7	63.1	54.1	55.4	63.7	63.8
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	219	472	1,017
CNEL:	109	235	507	1,093

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Fontaine Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,165 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,644 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.3	69.9
Medium Trucks:	63.1	62.4	56.0	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.2	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	211	455	981
CNEL:	105	227	489	1,054

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Culver Drive to Deerwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,788 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,612 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.02	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.5	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	71.2	70.3	67.2	62.4	71.0	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	210	453	975
CNEL:	105	226	486	1,048

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Deerwood to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,331 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,575 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.5	69.2	69.8
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	968
CNEL:	104	224	483	1,041

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Yale Avenue to Fontaine Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,453 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,585 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	970
CNEL:	104	225	484	1,042

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Jeffrey Road to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,819 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,533 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.9	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.1	70.2	67.1	62.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	446	961
CNEL:	103	222	479	1,032

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Alton Parkway to Spectrum

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,703 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,276 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	197	424	914
CNEL:	98	211	456	982

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Spectrum to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,224 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,236 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	906
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Hearthstone to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,396 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,168 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.6	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	415	893
CNEL:	96	207	446	960

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Charter to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,432 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,006 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	863
CNEL:	93	200	430	927

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Jamboree Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,892 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.9
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	841
CNEL:	90	195	419	903

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Pacifica to Entertainment (Enterprise/Fortune)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,060 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,892 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.9
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	841
CNEL:	90	195	419	904

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,045 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,891 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.9
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	841
CNEL:	90	195	419	903

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Harvard Avenue to Hearthstone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,966 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,720 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	375	807
CNEL:	87	187	403	867

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Research to Hubble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,654 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,446 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	752
CNEL:	81	174	375	808

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Barranca Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,054 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,479 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.53	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.70	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.66	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	352	759
CNEL:	82	176	378	815

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,430 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,428 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	80	173	373	804

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Discovery to Charter

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,216 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,493 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.8	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.3	52.2	53.5	61.8	62.0
Vehicle Noise:	69.6	68.6	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	762
CNEL:	82	176	380	818

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,897 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,301 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.1	60.4	54.0	52.5	61.0	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.3	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	156	335	722
CNEL:	78	167	360	776

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Muller to Tesla

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,594 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,194 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.00	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.19	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.7
Medium Trucks:	60.9	60.2	53.8	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.0	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	325	699
CNEL:	75	162	349	751

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Sand Canyon Avenue to Odyssey

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,885 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,136 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	60.8	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.1	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	687
CNEL:	74	159	343	738

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Tesla to Scientific Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,586 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,028 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.6
Heavy Trucks:	60.9	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.7	67.7	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	664
CNEL:	71	154	331	713

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Scientific Way to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,463 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,936 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.4
Heavy Trucks:	60.7	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.5	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	643
CNEL:	69	149	321	691

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Gateway Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,763 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,878 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	631
CNEL:	68	146	314	677

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Laguna Canyon Road to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,810 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,882 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	60.6	60.0	51.0	52.3	60.6	60.7
Vehicle Noise:	68.3	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	631
CNEL:	68	146	315	678

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Odyssey to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,449 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,852 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.6	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.3	67.4	64.3	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	135	290	625
CNEL:	67	145	312	671

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive (Edinger)
Road Segment: Redhill Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,705 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,193 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.60	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	417	898
CNEL:	97	208	448	965

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: I-5 SB Off-Ramp to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,825 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,761 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.1	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	73.3	70.4	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	156	337	725	1,562
CNEL:	168	362	780	1,681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	80,926	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	6,676	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.42	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-11.82	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-15.77	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.7	72.7	70.9	64.8	73.5	74.1
Medium Trucks:	67.1	66.4	60.1	58.5	67.0	67.2
Heavy Trucks:	67.1	66.6	57.5	58.8	67.1	67.2
Vehicle Noise:	75.3	74.4	71.4	66.5	75.1	75.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	175	377	811	1,748
CNEL:	188	405	873	1,881

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Walnut Avenue to Michelle Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,211 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,967 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.1	71.8	72.4
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.6	72.7	69.7	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	305	657	1,415
CNEL:	152	328	707	1,523

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: I-405 NB Off-Ramp to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,354 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,712 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.45	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.79	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-15.75	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.1	74.1	72.3	66.2	74.9	75.5
Medium Trucks:	68.5	67.8	61.5	59.9	68.4	68.6
Heavy Trucks:	68.5	68.0	58.9	60.2	68.5	68.6
Vehicle Noise:	76.7	75.8	72.8	67.9	76.5	77.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	271	584	1,258	2,709
CNEL:	291	628	1,353	2,915

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Michelle Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,379 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,651 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.5	65.0	65.2
Heavy Trucks:	65.2	64.6	55.5	56.8	65.1	65.3
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	135	292	629	1,355
CNEL:	146	314	676	1,457

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Main Street to Kelvin Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	70,210	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,792	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.81	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.43	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.39	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.5	73.4	71.6	65.6	74.2	74.8
Medium Trucks:	67.9	67.2	60.8	59.3	67.8	68.0
Heavy Trucks:	67.9	67.3	58.3	59.5	67.9	68.0
Vehicle Noise:	76.1	75.1	72.2	67.3	75.9	76.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	246	529	1,140	2,456
CNEL:	264	569	1,226	2,642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	86,971 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,175 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	130 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	88.792
Medium Trucks:	88.747
Heavy Trucks:	88.792

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.74	-3.84	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.50	-3.84	-1.20	*-4.96*	0.000	0.000
Heavy Trucks:	86.40	-15.46	-3.84	-1.20	*-5.14*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.6	63.6	72.2	72.8
Medium Trucks:	65.9	65.2	58.8	57.3	65.7	66.0
Heavy Trucks:	65.9	65.3	56.3	57.5	65.9	66.0
Vehicle Noise:	74.1	73.1	70.2	65.3	73.8	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	428	922	1,986
CNEL:	214	460	992	2,136

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Kelvin Avenue to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,064	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,368	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.48	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.76	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.72	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.1	73.1	71.3	65.3	73.9	74.5
Medium Trucks:	67.5	66.9	60.5	59.0	67.4	67.7
Heavy Trucks:	67.6	67.0	57.9	59.2	67.5	67.7
Vehicle Noise:	75.7	74.8	71.8	67.0	75.5	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	233	503	1,084	2,334
CNEL:	251	541	1,166	2,511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	64,320 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,306 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.43	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.81	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.77	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.1	73.0	71.3	65.2	73.8	74.4
Medium Trucks:	67.5	66.8	60.5	58.9	67.4	67.6
Heavy Trucks:	67.5	66.9	57.9	59.1	67.5	67.6
Vehicle Noise:	75.7	74.7	71.8	66.9	75.5	75.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	232	499	1,075	2,317
CNEL:	249	537	1,157	2,492

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Birch Street to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,363 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,990 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.01	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.5	63.8	57.4	55.9	64.3	64.6
Heavy Trucks:	64.5	63.9	54.9	56.1	64.5	64.6
Vehicle Noise:	72.6	71.7	68.8	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	263	568	1,223
CNEL:	132	283	611	1,316

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,185 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,470 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.68	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.56	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.51	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.1	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.3	56.8	65.2	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.6	69.7	64.8	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	134	288	621	1,338
CNEL:	144	310	668	1,439

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Alton Parkway to Beckman

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,506	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,827	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.01	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.22	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.18	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.7	72.6	70.9	64.8	73.4	74.0
Medium Trucks:	67.1	66.4	60.0	58.5	67.0	67.2
Heavy Trucks:	67.1	66.5	57.5	58.7	67.1	67.2
Vehicle Noise:	75.3	74.3	71.4	66.5	75.1	75.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	217	469	1,009	2,175
CNEL:	234	504	1,086	2,340

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Fairchild Road to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,498	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,084	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.29	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.95	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.91	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.8	62.7	71.3	71.9
Medium Trucks:	65.0	64.3	57.9	56.4	64.9	65.1
Heavy Trucks:	65.0	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	73.2	72.2	69.3	64.4	73.0	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	126	271	585	1,260
CNEL:	136	292	629	1,355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Beckman to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,535	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,499	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.71	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.53	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.49	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.4	72.3	70.5	64.5	73.1	73.7
Medium Trucks:	66.8	66.1	59.7	58.2	66.7	66.9
Heavy Trucks:	66.8	66.2	57.2	58.4	66.8	66.9
Vehicle Noise:	75.0	74.0	71.1	66.2	74.8	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	208	447	963	2,075
CNEL:	223	481	1,036	2,233

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: I-5 NB Off-Ramp to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,710 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,349 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	66.0	59.6	58.0	66.5	66.7
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	942	2,029
CNEL:	218	470	1,013	2,182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Campus Drive to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,590 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,761 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.93	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.31	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.26	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	257	554	1,192
CNEL:	128	276	595	1,283

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: El Camino Real to West Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,446	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,244	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.78	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.74	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.1	70.3	64.2	72.9	73.5
Medium Trucks:	66.5	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	66.5	66.0	56.9	58.2	66.5	66.7
Vehicle Noise:	74.7	73.8	70.8	65.9	74.5	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	200	430	927	1,996
CNEL:	215	463	997	2,147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: West Drive to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,319 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,234 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.44	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.79	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.75	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.1	70.3	64.2	72.9	73.5
Medium Trucks:	66.5	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	66.5	66.0	56.9	58.2	66.5	66.6
Vehicle Noise:	74.7	73.8	70.8	65.9	74.5	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	429	925	1,993
CNEL:	214	462	995	2,144

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,722 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,937 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.13	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.11	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.06	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	70.0	63.9	72.5	73.1
Medium Trucks:	66.2	65.5	59.2	57.6	66.1	66.3
Heavy Trucks:	66.2	65.6	56.6	57.8	66.2	66.3
Vehicle Noise:	74.4	73.5	70.5	65.6	74.2	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	190	409	881	1,899
CNEL:	204	440	948	2,043

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Koll Center to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,698	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,440	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.54	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.70	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.65	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.2	63.6	57.2	55.6	64.1	64.3
Heavy Trucks:	64.3	63.7	54.6	55.9	64.2	64.4
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	522	1,124
CNEL:	121	260	561	1,209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: MacArthur Boulevard to Koll Center

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,222 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,401 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.49	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.74	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.70	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	68.0	61.9	70.5	71.1
Medium Trucks:	64.2	63.5	57.1	55.6	64.1	64.3
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	72.4	71.4	68.5	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	240	518	1,115
CNEL:	120	258	557	1,200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Irvine Boulevard to Portola Pakway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,193 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,408 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.24	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.5	69.5	66.6	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	873
CNEL:	94	202	436	940

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Warner Avenue to Edinger Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	87,026 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,180 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.74	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-11.50	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-15.46	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	77.3	76.2	74.5	68.4	77.0	77.6
Medium Trucks:	70.7	70.0	63.6	62.1	70.6	70.8
Heavy Trucks:	70.7	70.1	61.1	62.3	70.7	70.8
Vehicle Noise:	78.9	77.9	75.0	70.1	78.7	79.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	242	521	1,123	2,419
CNEL:	260	561	1,208	2,602

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	71,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,896 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.88	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.35	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.31	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.4	75.4	73.6	67.5	76.2	76.8
Medium Trucks:	69.8	69.2	62.8	61.2	69.7	69.9
Heavy Trucks:	69.9	69.3	60.2	61.5	69.8	70.0
Vehicle Noise:	78.0	77.1	74.1	69.3	77.8	78.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	212	457	985	2,121
CNEL:	228	492	1,059	2,282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Edinger Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,484 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.57	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.67	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.63	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.1	75.1	73.3	67.2	75.9	76.5
Medium Trucks:	69.5	68.8	62.5	60.9	69.4	69.6
Heavy Trucks:	69.5	68.9	59.9	61.2	69.5	69.6
Vehicle Noise:	77.7	76.8	73.8	68.9	77.5	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	435	938	2,021
CNEL:	217	468	1,009	2,174

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Walnut Avenue to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,850 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,608 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.8	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	71.1	70.2	67.0	62.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	447	963
CNEL:	103	223	479	1,033

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: I-5 NB Off-Ramp to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,333 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,142 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.16	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.08	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.03	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.2	69.9	70.5
Medium Trucks:	63.9	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.7	64.1	55.1	56.4	64.7	64.8
Vehicle Noise:	72.0	71.1	67.9	63.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	488	1,051
CNEL:	113	243	523	1,127

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Poplar (Meadows) to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,514 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,167 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.2
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.6	69.7	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	97	208	448	966

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,193 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,058 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	191	411	885
CNEL:	95	204	441	949

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Irvine Center Drive to Poplar (Meadows)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,338 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.4	61.7	55.3	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.5	69.5	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	406	874
CNEL:	94	202	435	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: I-405 NB Off-Ramp to Quail Creek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,513 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,002 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	70.5	69.6	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	877
CNEL:	94	203	436	940

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Barranca Parkway to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,090	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,885	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.25	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	859
CNEL:	92	199	428	922

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Quail Creek to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,231 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,897 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.6	68.3	68.9
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.4	69.4	66.3	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	861
CNEL:	92	199	429	924

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Irvine Valley College to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,501 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,671 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	384	828
CNEL:	89	191	412	888

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Trabuco Road to Hideaway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,737 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,113 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.98	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	741
CNEL:	80	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Hideaway to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,660 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,107 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.22	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	740
CNEL:	79	171	369	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Roosevelt to Grove

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,485 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,340 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.29	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.95	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.91	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	788
CNEL:	85	182	392	845

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Grove to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,079 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,224 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.13	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.11	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.06	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	770
CNEL:	83	178	383	826

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,761 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,373 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.2	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Encore to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,646 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,291 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.84	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.7	60.9	54.8	63.5	64.1
Medium Trucks:	57.5	56.8	50.4	48.9	57.4	57.6
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.6	64.6	61.5	56.8	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	191	412
CNEL:	44	95	205	442

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Irvine Boulevard to Encore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,564 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,202 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.8
Medium Trucks:	57.2	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	182	393
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeronimo Road
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,085 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	667 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	56.3	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	64.3	63.4	60.3	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	55	118	255
CNEL:	27	59	127	273

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeronimo Road
Road Segment: Alton Parkway to Goodyear

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,560 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	624 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.4	53.3	62.0	62.6
Medium Trucks:	56.0	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.0	63.1	60.0	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	261

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Old Laguna Canyon Road to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,557 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,336 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.69	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.4	68.6	62.5	71.2	71.8
Medium Trucks:	64.8	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	64.9	64.3	55.2	56.5	64.8	65.0
Vehicle Noise:	73.0	72.1	69.1	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	129	278	600	1,293
CNEL:	139	300	645	1,391

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Laguna Canyon Freeway to Quail Hill Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,659 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,374 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.7	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	576
CNEL:	62	134	288	620

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Discovery to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,807 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,139 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.7	60.0	53.6	52.1	60.6	60.8
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.9	67.9	65.0	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	236	508
CNEL:	55	118	254	547

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: I-405 Overcrossing to Pasteur

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,507 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	702 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.95	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.18	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.14	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	67.7	66.7	63.7	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	157	339
CNEL:	36	78	169	364

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Irvine Center Drive to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,537 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	787 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.1	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	67.2	66.3	63.4	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	184	397
CNEL:	43	92	198	427

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Quail Hill Parkway to I-405 Overcrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,507 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	702 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.95	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.18	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.14	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	67.7	66.7	63.7	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	157	339
CNEL:	36	78	169	364

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Pasteur to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,352 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	689 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	66.7	65.7	62.8	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	364
CNEL:	39	84	182	391

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Waterworks to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,386 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	609 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	66.1	65.2	62.3	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	335
CNEL:	36	78	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,866 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	566 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	57.6	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	57.7	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	65.8	64.9	61.9	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	148	319
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,179 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	510 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.7	61.0	54.9	63.5	64.1
Medium Trucks:	57.2	56.5	50.1	48.6	57.1	57.3
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	65.4	64.4	61.5	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	149	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Lake Forest Drive
Road Segment: Hidden Canyon to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,345 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,513 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	113	243	524
CNEL:	56	121	261	562

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Lake Forest Drive
Road Segment: Bake Parkway to Hidden Canyon (Romano)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,195 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,501 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	60.9	60.2	53.8	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.0	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	521
CNEL:	56	121	260	559

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Lake Forest Drive
Road Segment: Tesla to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,505 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,114 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-19.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-23.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.0
Heavy Trucks:	58.3	57.8	48.7	50.0	58.3	58.5
Vehicle Noise:	66.1	65.1	62.1	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	207	445
CNEL:	48	103	222	478

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Lake Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,138 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	506 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.35	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	70.80	-19.59	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	77.97	-23.55	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.1	55.0	53.3	47.2	55.8	56.4
Medium Trucks:	50.9	50.3	43.9	42.3	50.8	51.0
Heavy Trucks:	54.1	53.5	44.5	45.8	54.1	54.2
Vehicle Noise:	59.0	58.1	54.2	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Lynx
Road Segment: Irvine Boulevard to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,253 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	103 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-9.25	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-26.49	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-30.45	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.1	49.1	47.3	41.2	49.9	50.5
Medium Trucks:	45.0	44.3	37.9	36.4	44.8	45.1
Heavy Trucks:	48.2	47.6	38.5	39.8	48.1	48.3
Vehicle Noise:	53.0	52.2	48.3	44.3	52.8	53.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	12	27
CNEL:	3	6	13	29

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: I-405 SB Off-Ramp to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,659 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,004 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.79	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.45	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.9	73.8	72.1	66.0	74.6	75.2
Medium Trucks:	68.1	67.5	61.1	59.6	68.0	68.3
Heavy Trucks:	67.8	67.2	58.2	59.4	67.8	67.9
Vehicle Noise:	76.4	75.4	72.6	67.6	76.2	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	258	556	1,198	2,581
CNEL:	278	599	1,291	2,780

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Main Street to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,198	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,966	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.76	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.48	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.43	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.9	73.8	72.0	66.0	74.6	75.2
Medium Trucks:	68.1	67.4	61.1	59.5	68.0	68.2
Heavy Trucks:	67.8	67.2	58.2	59.4	67.8	67.9
Vehicle Noise:	76.4	75.4	72.5	67.6	76.1	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	257	553	1,192	2,568
CNEL:	277	596	1,284	2,766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: I-405 NB Off-Ramp and I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,267 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,890 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.69	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.55	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.50	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.8	73.7	72.0	65.9	74.5	75.1
Medium Trucks:	68.0	67.4	61.0	59.5	67.9	68.2
Heavy Trucks:	67.7	67.1	58.1	59.3	67.7	67.8
Vehicle Noise:	76.3	75.3	72.5	67.5	76.1	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	254	548	1,180	2,542
CNEL:	274	590	1,271	2,738

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Jamboree Road to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,283 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.6
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	357	768
CNEL:	82	178	382	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Fairchild Road to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,738	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,278	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	52.9	61.4	61.6
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	69.6	68.7	65.5	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	767
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Fitch to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,993 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,464 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.45	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.79	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.75	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.3	69.3	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	375	808
CNEL:	87	187	402	866

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Michelson Drive to Douglas

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,680 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,604 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.62	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.62	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.58	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.7	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	71.8	70.9	67.7	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	276	594	1,280
CNEL:	137	296	637	1,373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Douglas to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,619	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,599	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.61	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.63	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.58	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	71.8	70.9	67.7	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	276	594	1,279
CNEL:	137	296	637	1,372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Skypark to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,051 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,727 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.41	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.83	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.79	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.2
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	320	688
CNEL:	74	159	343	738

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Redhill Avenue to Skypark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,961 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,307 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.8	60.3	51.2	52.5	60.8	60.9
Vehicle Noise:	68.1	67.2	64.0	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	607
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Birch Street to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,454 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,687 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	229	493
CNEL:	53	114	245	529

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Campus Drive to Birch Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,933	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,892	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.82	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-16.42	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-20.38	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.9	60.3	53.9	52.3	60.8	61.0
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.0	68.1	64.9	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	387	833
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Gillette Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,129 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,641 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.66	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.58	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.53	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	70.5	69.6	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	387	835
CNEL:	90	193	416	895

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: MacArthur Boulevard to Mercantile

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,170 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,231 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.14	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.10	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.05	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.0	69.0	65.9	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	771
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Executive Park to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,179	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,325	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.4	53.0	51.5	59.9	60.1
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.1	67.2	64.1	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	610
CNEL:	65	141	304	655

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Von Karman Avenue to Cartwright

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,884 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,300 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.8	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	68.1	67.2	64.0	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	281	606
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: McDurmott to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,239 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,165 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.40	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.6	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	67.8	66.9	63.7	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	582
CNEL:	62	134	290	624

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Red Hill Avenue to Executive Circle

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,766 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,126 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	124	267	575
CNEL:	62	133	286	617

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Jamboree Road to Union

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,728	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,040	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	559
CNEL:	60	129	279	600

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,523 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,198 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.6	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	376
CNEL:	40	87	187	403

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Siglo to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,884 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,970 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.24	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.3	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	67.4	66.5	63.3	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	547
CNEL:	59	126	272	586

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Veneto to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,172 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,912 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.33	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.4	62.6	56.5	65.2	65.8
Medium Trucks:	59.2	58.5	52.1	50.6	59.1	59.3
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	67.3	66.4	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	57	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Paseo Westpark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,180 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,005 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Harvard Avenue to San Mateo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,142 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,002 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	58.1
Heavy Trucks:	58.9	58.3	49.2	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Marine Way
Job Number: 15937
Road Segment: Sand Canyon Avenue to Ridge Valley (O Street)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,411 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,334 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.79	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	77.72	-13.45	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	82.99	-17.40	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.4
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	72.0	71.1	67.8	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	307	662
CNEL:	71	153	329	709

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: Alton Parkway to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,689 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,614 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	61.0	60.3	53.9	52.4	60.9	61.1
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.0	68.1	64.8	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	522
CNEL:	56	120	259	558

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: Lynx to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,229 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,659 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	61.0	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	69.1	68.2	64.9	60.4	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	527
CNEL:	56	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: County Access to Treble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,917 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,138 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	98	212	456
CNEL:	49	105	227	488

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: Ridge Valley (O Street) to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,039 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	67.9	67.0	63.8	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	205	442
CNEL:	47	102	220	473

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: Skyhawk to County Access

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,302 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,592 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.8	60.1	60.2
Vehicle Noise:	66.9	66.0	62.7	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	375
CNEL:	40	86	186	401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,824	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,470	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	58.5	57.8	51.4	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.3	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	355
CNEL:	38	82	177	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: Treble to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,340 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,348 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	58.1	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.1	65.2	62.0	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	335
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: McGaw Avenue
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,868 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,144 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	56.0	55.3	49.0	47.4	55.9	56.1
Heavy Trucks:	57.9	57.3	48.2	49.5	57.8	58.0
Vehicle Noise:	64.0	63.1	59.7	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	242
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: McGaw Avenue
Road Segment: Red Hill Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,510 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,115 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	57.7	57.2	48.1	49.4	57.7	57.8
Vehicle Noise:	63.9	63.0	59.6	55.2	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	238
CNEL:	25	55	118	254

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: McGaw Avenue
Road Segment: Daimler to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,063 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	748 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.9	57.1	51.0	59.7	60.3
Medium Trucks:	54.2	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	62.2	61.3	57.8	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	182
CNEL:	19	42	90	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: McGaw Avenue
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,424 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	365 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-22.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-26.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.8	55.8	54.0	47.9	56.6	57.2
Medium Trucks:	51.0	50.4	44.0	42.5	50.9	51.2
Heavy Trucks:	52.9	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	59.0	58.2	54.7	50.3	58.9	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	121

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Meadowood
Road Segment: Culver Drive to Canyonwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	901 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.6	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	51.5	50.8	44.4	42.9	51.3	51.6
Heavy Trucks:	54.7	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	59.5	58.7	54.8	50.9	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Meridian
Road Segment: Spectrum to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,563 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	211 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-6.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.6	51.5	49.7	43.7	52.3	52.9
Medium Trucks:	47.1	46.4	40.0	38.5	46.9	47.2
Heavy Trucks:	49.5	49.0	39.9	41.2	49.5	49.7
Vehicle Noise:	55.1	54.2	50.6	46.4	54.9	55.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	62
CNEL:	7	14	30	66

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Meridian
Road Segment: Alton Parkway to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,184 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	180 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.9	50.8	49.0	43.0	51.6	52.2
Medium Trucks:	46.4	45.7	39.3	37.8	46.3	46.5
Heavy Trucks:	48.8	48.3	39.2	40.5	48.8	49.0
Vehicle Noise:	54.4	53.5	49.9	45.7	54.2	54.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	55
CNEL:	6	13	27	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Merit
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,641 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	300 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.62	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-21.86	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-25.82	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.7	53.7	51.9	45.9	54.5	55.1
Medium Trucks:	49.6	48.9	42.6	41.0	49.5	49.7
Heavy Trucks:	52.8	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	57.6	56.8	52.9	49.0	57.5	57.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	12	25	55
CNEL:	6	13	27	58

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Riparian to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,218	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,080	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.4
Medium Trucks:	60.0	59.3	52.9	51.4	59.9	60.1
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.0	67.1	63.8	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	208	448
CNEL:	48	103	223	480

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Almond Tree Lane to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,910 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	818 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.31	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.55	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.51	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.8	65.9	62.7	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	224
CNEL:	24	52	112	240

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Von Karman Avenue to Obsidian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,682 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,954 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	67.7	66.8	63.6	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	199	429
CNEL:	46	99	213	460

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Parkside to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,374	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,846	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	67.5	66.6	63.3	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	414
CNEL:	44	95	206	443

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Gillman to Seton/Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,165 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	756 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.65	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.85	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	58.5	57.8	51.4	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.3	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	99	213
CNEL:	23	49	106	228

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Carlson to Prince

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,061 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,232 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.05	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	77.72	-15.19	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	82.99	-19.15	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.0	66.1	62.9	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	462
CNEL:	49	107	230	495

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: MacArthur Boulevard to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,323 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,677 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.1	66.2	62.9	58.4	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	89	193	415

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Harvard Avenue to Parkside

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,916	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,478	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	357
CNEL:	38	82	177	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Bixby to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,607 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,453 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	66.5	65.6	62.3	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Jamboree Road to Carlson

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,486 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,103 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.79	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.45	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.41	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.4
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.4	68.5	65.2	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	529
CNEL:	57	122	263	566

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Teller to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,530	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,106	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.80	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.44	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.40	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.4	68.5	65.2	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	529
CNEL:	57	122	263	567

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Jordan East to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,719 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	554 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.00	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-21.24	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-25.20	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.6	58.0	51.6	50.0	58.5	58.7
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	66.6	65.7	62.5	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	38	81	174
CNEL:	19	40	87	186

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Culver Drive to Angell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,757 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	722 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.85	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.09	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	82.99	-24.05	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.9	61.1	55.0	63.7	64.3
Medium Trucks:	57.9	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	65.9	65.0	61.8	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	208
CNEL:	22	48	103	223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Modjeska (A Street)
Road Segment: Portola Springs to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,725 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,132 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	27.659
Medium Trucks:	27.514
Heavy Trucks:	27.659

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.41	3.75	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	79.45	-18.65	3.79	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	84.25	-22.61	3.75	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.4	70.5	67.4	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	363
CNEL:	39	84	181	390

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Modjeska (A Street)
Road Segment: South of Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,874 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	155 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.06	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-27.30	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-31.25	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	52.8	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	53.6	53.0	44.0	45.3	53.6	53.7
Vehicle Noise:	60.9	60.0	56.8	52.1	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	45	96

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Muirlands Boulevard
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,376	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,186	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	58.8	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	374
CNEL:	40	86	186	401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Muirlands Boulevard
Road Segment: Alton Parkway to Sterling

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Muirlands Boulevard
Road Segment: Wrigley to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Newport Coast Drive
Road Segment: SR-73 NB Off-Ramp to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,333	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,430	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.4	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.7	59.1	50.0	51.3	59.7	59.8
Vehicle Noise:	66.4	65.5	62.2	57.7	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	349
CNEL:	37	80	173	373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Newport Coast Drive
Road Segment: Turtle Crest to Bonita Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,101 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	998 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	64.8	63.9	60.7	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	275
CNEL:	29	63	136	294

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Nightmist
Road Segment: Sand Canyon Avenue to Tulip (Road C)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,630 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	959 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.1	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	53.6	53.0	46.6	45.1	53.5	53.7
Heavy Trucks:	56.1	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	61.6	60.8	57.1	53.0	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	78	169
CNEL:	18	39	83	180

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Northwood
Road Segment: Yale Avenue to Savannah

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	389 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.96	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-22.20	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.15	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.0	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	62.2	61.3	57.9	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	110
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Northwood
Road Segment: Goldrush to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	311 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.93	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.17	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.12	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.9	56.2	50.1	58.7	59.4
Medium Trucks:	53.2	52.6	46.2	44.7	53.1	53.4
Heavy Trucks:	55.1	54.5	45.5	46.7	55.1	55.2
Vehicle Noise:	61.2	60.4	56.9	52.5	61.1	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	44	95
CNEL:	10	22	47	101

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Oak Canyon Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,082 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	997 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.97	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.20	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.16	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.0	68.1	64.9	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	311
CNEL:	33	72	155	333

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Pacifica
Road Segment: Gateway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,406 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,023 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.9	56.2	49.9	48.3	56.8	57.0
Heavy Trucks:	58.2	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	64.9	64.0	60.8	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	130	279
CNEL:	30	64	139	299

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Pacifica
Road Segment: Alton Parkway to Gateway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,464 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	781 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.1	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.5	47.4	48.7	57.0	57.1
Vehicle Noise:	63.8	62.9	59.6	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Pacifica
Job Number: 15937
Road Segment: Irvine Center Drive to Fortune Drive (Spectrum Center Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,930 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	572 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.3	57.6	51.5	60.1	60.7
Medium Trucks:	54.4	53.7	47.3	45.8	54.3	54.5
Heavy Trucks:	55.7	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	62.4	61.5	58.2	53.7	62.2	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	88	189
CNEL:	20	44	94	203

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Pacifica
Road Segment: Meridian to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,476	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	369	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-23.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	57.4	55.7	49.6	58.2	58.8
Medium Trucks:	52.5	51.8	45.4	43.9	52.4	52.6
Heavy Trucks:	53.8	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	60.5	59.6	56.3	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	66	141
CNEL:	15	33	70	151

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Park Place
Road Segment: Christamon South to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,750 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	309 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.2	53.2	51.4	45.3	54.0	54.6
Medium Trucks:	48.7	48.0	41.7	40.1	48.6	48.8
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	56.7	55.9	52.2	48.0	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Portola Parkway
Job Number: 15937
Road Segment: Bee Canyon Access Road to Sand Canyon Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,011 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,981 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.1	62.4	56.0	54.5	63.0	63.2
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	71.3	70.3	67.4	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	158	341	735
CNEL:	79	170	367	791

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Jeffrey Road to Bee Canyon Access Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,959 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,977 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.1	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	71.2	70.3	67.4	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	734
CNEL:	79	170	367	790

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Arrowhead to Ridge Valley Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,161 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,911 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	71.1	70.2	67.2	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	333	718
CNEL:	77	166	358	772

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Sand Canyon Avenue to Arrowhead

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,291 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,757 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.9	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	315	679
CNEL:	73	157	339	730

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Portola Springs to SR-241 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,068 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,408 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.8	68.9	65.9	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	586
CNEL:	63	136	292	630

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Gatepark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,306 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,335 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.33	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.2
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	856
CNEL:	92	198	427	921

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: ETC-6 (SR-261) NB Off-Ramp to Gatepark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,985	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,309	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	394	849
CNEL:	91	197	424	914

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,082 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,234 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	831
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Jamboree Road to Bellevue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,213 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.9
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	70.1	69.2	66.2	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	383	826
CNEL:	89	191	412	888

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Bellevue to ETC-6 (SR-261) SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,584 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,193 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.0	69.1	66.2	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	821
CNEL:	88	190	410	883

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Yale Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,071 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,068 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.6	61.1	52.0	53.3	61.6	61.7
Vehicle Noise:	69.8	68.9	65.9	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	849

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Culver Drive to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,276 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,838 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.18	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.1	60.5	51.5	52.8	61.1	61.2
Vehicle Noise:	69.3	68.4	65.4	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	729
CNEL:	78	169	364	785

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Silverado to Portola Springs

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,067 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	996 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.84	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.08	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.0
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	68.3	67.3	64.4	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	216	465
CNEL:	50	108	232	500

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Pusan
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,470 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	204 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.31	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.55	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.50	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.1	52.0	50.2	44.2	52.8	53.4
Medium Trucks:	47.9	47.2	40.9	39.3	47.8	48.0
Heavy Trucks:	51.1	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	55.9	55.1	51.2	47.3	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Quail Hill Parkway
Road Segment: Shady Canyon Drive to Passage

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,448 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,274 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.2	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	182	392
CNEL:	42	91	195	420

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Quail Hill Parkway
Road Segment: East Knollcrest to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,917 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	818 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	292
CNEL:	31	67	145	313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Quassar Drive (Spectrum)
Job Number: 15937
Road Segment: Irvine Center Drive to Spectrum Center Drive (Fortune)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,981 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	163 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.27	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.50	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	77.97	-28.46	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.7	50.7	48.9	42.8	51.5	52.1
Medium Trucks:	46.6	45.9	39.5	38.0	46.5	46.7
Heavy Trucks:	49.8	49.2	40.2	41.4	49.8	49.9
Vehicle Noise:	54.6	53.8	49.9	46.0	54.5	54.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	8	18	39

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: MacArthur Boulevard to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,189 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,646 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.1	62.4	56.0	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.2	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	211	455	981
CNEL:	105	227	489	1,054

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: I-405 Over Crossing to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,062 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,820 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	592
CNEL:	64	137	295	636

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: Alton Parkway to Deere Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,593 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	363	782
CNEL:	84	181	390	840

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,718 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,534 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	770
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: Deere Avenue to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,672 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,448 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.71	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	752
CNEL:	81	174	375	808

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: Skypark East to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,765 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.06	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.18	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.14	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	316	680
CNEL:	73	157	339	731

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: Main Street to Skypark East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,423	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,520	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.59	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.83	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.78	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	615
CNEL:	66	142	307	661

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Research Drive
Road Segment: Hubble to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,938 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,057 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	250	539
CNEL:	58	125	269	579

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Research Drive
Road Segment: Scientific to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,327 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,264 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.5	56.4	65.0	65.6
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	390
CNEL:	42	90	194	418

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Research Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,774	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,054	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	58.2	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.3	65.4	62.3	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	74	160	345
CNEL:	37	80	172	370

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Research Drive
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,214	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	843	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.3	56.6	50.2	48.7	57.2	57.4
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	65.4	64.4	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Irvine Boulevard to Trabuco Road (Great Park Boulevard)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,874 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,227 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.8	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	67.0	66.1	62.9	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	382
CNEL:	41	88	190	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Ridge Valley (O Street)
Road Segment: Portola Parkway to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,231 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,009 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.1	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	335
CNEL:	36	78	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Trabuco Road (Great Park Boulevard) to Marine Way

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	918 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Ridge Valley (O Street)
Road Segment: Ranchland to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	936 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	77 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-13.07	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-30.31	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-34.27	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	55.0	53.2	47.1	55.8	56.4
Medium Trucks:	49.8	49.1	42.8	41.2	49.7	49.9
Heavy Trucks:	50.6	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	57.9	56.9	53.8	49.1	57.7	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	61

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Ridgeline Drive
Road Segment: Concordia East to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,053 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,324 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.36	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-16.88	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-20.83	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.5	59.8	53.4	51.9	60.4	60.6
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	68.5	67.6	64.1	59.8	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	143	307
CNEL:	33	71	152	328

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Ridgeline Drive
Road Segment: Turtle Rock Drive to San Simeon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,883 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,228 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.03	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.21	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.16	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.3
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	68.1	67.3	63.8	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	292
CNEL:	31	67	145	312

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Rockfield Avenue
Road Segment: Whatney to McLaren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,154 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,333 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.9
Medium Trucks:	59.3	58.6	52.2	50.7	59.2	59.4
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.3	66.4	63.3	58.6	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	87	187	404
CNEL:	43	93	201	433

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Rockfield Avenue
Road Segment: Bake Parkway to Whatney

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,259 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	599 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	56.6	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	63.9	63.0	59.8	55.1	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	237
CNEL:	25	55	118	254

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Rockfield Avenue
Road Segment: Thomas to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,672 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	468 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	54.7	54.1	47.7	46.1	54.6	54.8
Heavy Trucks:	55.6	55.0	45.9	47.2	55.5	55.7
Vehicle Noise:	62.8	61.9	58.7	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	93	201
CNEL:	22	46	100	216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Roosevelt
Road Segment: Jeffrey Road to Vision

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,664 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,375 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.2	57.5	51.1	49.6	58.1	58.3
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.2	65.3	62.0	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	340
CNEL:	36	78	169	364

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Roosevelt
Road Segment: Yale Avenue to Van Buren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,969 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	740 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.75	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-19.99	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-23.94	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.9	59.2	52.8	51.3	59.8	60.0
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	67.9	67.0	63.7	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	98	211
CNEL:	23	49	105	226

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Roosevelt
Road Segment: Vision to Bay Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,775 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,301 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.0	65.1	61.8	57.3	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	152	328
CNEL:	35	76	163	351

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Roosevelt
Road Segment: Nimitz to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,499	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,196	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.8	54.7	63.3	63.9
Medium Trucks:	57.6	56.9	50.5	49.0	57.5	57.7
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	65.6	64.7	61.4	56.9	65.4	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	71	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Roosevelt
Road Segment: Tulip (Road C) to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,703 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,131 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.3	56.7	50.3	48.8	57.2	57.4
Heavy Trucks:	58.6	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.4	64.5	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Royal Oak
Road Segment: Alton Parkway to Eaglecreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	398 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.86	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	75.75	-22.09	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	81.57	-26.05	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	63.8	62.9	59.5	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Oak Canyon Drive to Burt Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,454 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,162 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.1	63.5	54.4	55.7	64.1	64.2
Vehicle Noise:	71.8	70.9	67.8	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	231	498	1,072
CNEL:	115	248	535	1,152

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Irvine Center Drive to Oak Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,167 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,056 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	64.0	63.4	54.3	55.6	63.9	64.1
Vehicle Noise:	71.7	70.8	67.7	62.9	71.5	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	227	489	1,054
CNEL:	113	244	525	1,132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-405 NB Off-Ramp to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,532	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,756	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.34	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.90	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.86	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.8	63.7	72.3	72.9
Medium Trucks:	66.2	65.5	59.1	57.6	66.0	66.3
Heavy Trucks:	66.6	66.0	57.0	58.2	66.6	66.7
Vehicle Noise:	74.3	73.4	70.3	65.5	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	242	522	1,125
CNEL:	121	260	561	1,209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Burt Road to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,029	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,375	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.00	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.24	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.19	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.8	70.5	71.1
Medium Trucks:	64.3	63.6	57.2	55.7	64.2	64.4
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	522	1,124
CNEL:	121	260	560	1,208

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Marine to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,688 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,007 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.59	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.65	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.61	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.9	63.8	72.4	73.0
Medium Trucks:	66.2	65.6	59.2	57.7	66.1	66.4
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.4	73.5	70.4	65.6	74.2	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	190	409	881	1,899
CNEL:	204	440	947	2,040

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Trabuco Road to Towngate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,085 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,307 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.8	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	919
CNEL:	99	213	459	988

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,043 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,139 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.4	61.8	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.6	69.6	66.6	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	191	412	888
CNEL:	95	206	443	954

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-5 SB Off-Ramp to Marine

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,509 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,167 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.79	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.45	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.9	70.8	69.1	63.0	71.6	72.2
Medium Trucks:	65.4	64.8	58.4	56.9	65.3	65.6
Heavy Trucks:	65.9	65.3	56.2	57.5	65.8	66.0
Vehicle Noise:	73.6	72.7	69.6	64.8	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	168	362	780	1,680
CNEL:	181	389	838	1,805

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Hospital to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,931 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,964 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	397	855
CNEL:	92	198	426	918

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Nightmist to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,881 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.48	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.76	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.71	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.6	65.0	55.9	57.2	65.5	65.7
Vehicle Noise:	73.3	72.4	69.3	64.5	73.1	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	160	345	744	1,602
CNEL:	172	371	799	1,722

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-405 SB Off-Ramp to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,399 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,920 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.25	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.99	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.95	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	65.1	64.4	58.0	56.5	65.0	65.2
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.2	72.3	69.2	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	205	442	951
CNEL:	102	220	474	1,022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-5 NB Off-Ramp to Nightmist

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,651 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,849 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.44	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.79	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.75	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	65.1	64.4	58.1	56.5	65.0	65.2
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	159	343	740	1,594
CNEL:	171	369	795	1,712

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Towngate to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,490 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,845 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	832
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Waterworks to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,082 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,729 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.7	52.6	53.9	62.2	62.3
Vehicle Noise:	70.0	69.0	66.0	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	187	403	869

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Irvine Boulevard to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,874 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,475 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	111	239	515
CNEL:	55	119	257	553

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	153	331	712	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Alton Parkway to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,774 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,704 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.91	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.33	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.28	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	815
CNEL:	88	189	407	876

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon/Shady Canyon
Road Segment: Quail Hill Parkway to I-405 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,802 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,964 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.52	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.72	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.67	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	730
CNEL:	78	169	364	784

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Scientific Way
Road Segment: Irvine Center Drive to Wald

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,635 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	135 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-9.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-26.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-30.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.5	51.4	49.7	43.6	52.2	52.8
Medium Trucks:	46.7	46.0	39.7	38.1	46.6	46.8
Heavy Trucks:	48.6	48.0	38.9	40.2	48.5	48.7
Vehicle Noise:	54.7	53.8	50.4	46.0	54.5	55.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	27	58
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Shady Canyon Drive
Job Number: 15937
Road Segment: Culver Drive/Bonita Canyon Drive to Cloverfield

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,123 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	753 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.64	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-20.88	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-24.84	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	60.8	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.1	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	142	307
CNEL:	33	71	153	330

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Shady Canyon Drive
Road Segment: Bommer Canyon Road to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,752 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	640 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.35	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.59	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.54	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.2
Heavy Trucks:	59.5	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.3	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	148	318
CNEL:	34	74	159	342

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Skyhawk
Road Segment: Great Park Boulevard to Marine Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,666 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	880 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.5	55.5	53.7	47.7	56.3	56.9
Medium Trucks:	51.4	50.7	44.3	42.8	51.2	51.5
Heavy Trucks:	54.6	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	59.4	58.6	54.7	50.8	59.3	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	120
CNEL:	13	27	59	128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Southwood
Road Segment: Yale Avenue to Colt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,031 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	250 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.88	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.12	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.07	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.1	57.0	55.2	49.2	57.8	58.4
Medium Trucks:	52.3	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.1	53.5	44.5	45.8	54.1	54.2
Vehicle Noise:	60.3	59.4	56.0	51.6	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	41	88

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Southwood
Road Segment: Challenger to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,798 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	231 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.23	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.47	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.42	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.7	56.6	54.9	48.8	57.4	58.1
Medium Trucks:	51.9	51.3	44.9	43.4	51.8	52.1
Heavy Trucks:	53.8	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	59.9	59.1	55.6	51.2	59.8	60.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	78
CNEL:	8	18	39	83

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Spectrum Center Drive (Fortune
Road Segment: Pacifica to Quassar Drive (Spectrum)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,786 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	972 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.1	56.4	50.3	58.9	59.5
Medium Trucks:	53.7	53.0	46.7	45.1	53.6	53.8
Heavy Trucks:	56.2	55.6	46.5	47.8	56.2	56.3
Vehicle Noise:	61.7	60.8	57.2	53.0	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	84	181

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Spectrum Center Drive (Fortune
Road Segment: Quassar Drive (Spectrum) to Gatewayb

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,116 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,082 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.8	50.8	59.4	60.0
Medium Trucks:	54.2	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	56.6	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	62.2	61.3	57.7	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	19	42	90	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sunnyhill
Road Segment: Shady Canyon Drive to Turtle Rock Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,602 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	545 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-19.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-23.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.5	53.4	51.6	45.6	54.2	54.8
Medium Trucks:	49.3	48.6	42.2	40.7	49.2	49.4
Heavy Trucks:	52.5	51.9	42.9	44.1	52.5	52.6
Vehicle Noise:	57.3	56.5	52.6	48.7	57.2	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	87
CNEL:	9	20	43	93

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Technology Drive
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,036 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,643 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	637
CNEL:	68	147	317	684

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Technology Drive
Job Number: 15937
Road Segment: Old Laguna Canyon Road to I-5/SR-133 Undercrossing

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,487 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,938 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.0	68.1	64.9	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	241	518
CNEL:	56	120	258	556

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Technology Drive
Road Segment: I-5/SR-133 to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,568 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,862 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.6	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	68.8	67.9	64.7	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	505
CNEL:	54	117	251	541

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Technology Drive
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,528 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	456 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.55	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.8	58.0	52.0	60.6	61.2
Medium Trucks:	54.6	53.9	47.6	46.0	54.5	54.7
Heavy Trucks:	55.5	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.7	61.8	58.6	54.0	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	92	198
CNEL:	21	46	98	212

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Toledo Way
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,905 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	652 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	57.3	56.6	50.2	48.7	57.1	57.4
Heavy Trucks:	57.7	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	65.4	64.5	61.4	56.6	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	299
CNEL:	32	69	149	321

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Toledo Way
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,324 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	522 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	56.3	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	56.7	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	64.4	63.5	60.5	55.7	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	55	119	257
CNEL:	28	60	128	277

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Toledo Way
Road Segment: Alton Parkway to Parker

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,838 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	482 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.3	59.5	53.5	62.1	62.7
Medium Trucks:	55.9	55.3	48.9	47.4	55.8	56.1
Heavy Trucks:	56.4	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	64.1	63.2	60.1	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	53	113	244
CNEL:	26	56	122	262

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: Keystone to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,475 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,194 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	66.9	66.0	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	174	375
CNEL:	40	87	187	403

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: Jeffrey Road to Keystone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,713 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,131 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.6	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.6	65.7	62.6	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	362
CNEL:	39	84	180	388

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: Culver Drive to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,214 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,090 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.2	58.6	49.6	50.9	59.2	59.3
Vehicle Noise:	66.5	65.6	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	353
CNEL:	38	82	176	379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: Monroe to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,866 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,061 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.3	57.6	51.2	49.7	58.2	58.4
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.4	65.5	62.3	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	161	347
CNEL:	37	80	173	372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: I-5 NB Off-Ramp to Monroe

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,616 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,041 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.0	58.4	49.4	50.7	59.0	59.1
Vehicle Noise:	66.3	65.4	62.2	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: Yale Avenue to Remington

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,616	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	958	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.8	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	58.7	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	348

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: Remington to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,077 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	914 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.6	57.0	50.6	49.1	57.5	57.7
Heavy Trucks:	58.5	57.9	48.8	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	314
CNEL:	34	73	156	337

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Ridge Drive
Road Segment: Federation Way to Bonita Canyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,017 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,734 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	240	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Rock Drive
Road Segment: Ridgeline to Willowleaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,727 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	720 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.38	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.62	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.57	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.6	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	250
CNEL:	27	58	125	268

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Rock Drive
Road Segment: Silkwood to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,572 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	707 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.46	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.69	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.65	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	60.2	59.7	50.6	51.9	60.2	60.3
Vehicle Noise:	67.5	66.6	63.4	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	115	247
CNEL:	27	57	123	265

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Rock Drive
Road Segment: Canyon Park to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,206 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	595 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.21	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.45	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.40	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.7	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	24	51	110	236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Rock Drive
Road Segment: Sunnyhill to Southernwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,588 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	296 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-28.43	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	55.6	55.0	48.6	47.0	55.5	55.7
Heavy Trucks:	56.5	55.9	46.8	48.1	56.4	56.6
Vehicle Noise:	63.7	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	138
CNEL:	15	32	69	148

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Rock Drive
Road Segment: Campus Drive to Hillgate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,125 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	588 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.6	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.8	62.9	59.7	55.1	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	109	234
CNEL:	25	54	116	251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Rock Drive
Road Segment: Paseo Segovia to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,066 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	335 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.69	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-23.93	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-27.89	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.0
Vehicle Noise:	65.2	64.3	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	185
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Golden Glow to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,194 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,481 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.5	63.9	57.5	56.0	64.4	64.6
Heavy Trucks:	64.9	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	72.7	71.7	68.7	63.9	72.5	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	197	423	912
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Ridgeline to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,836 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,276 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.90	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.34	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-17.29	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.1	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.3	71.3	68.3	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	222	478	1,030
CNEL:	111	239	514	1,107

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Culver Drive to Golden Glow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,383 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	193	415	895
CNEL:	96	207	446	962

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Yale Avenue to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,567 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,017 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.9	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.3	63.7	54.7	56.0	64.3	64.4
Vehicle Noise:	72.0	71.1	68.1	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	385	829
CNEL:	89	192	414	891

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,027 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,787 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.3	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.4	71.5	68.4	63.6	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	118	254	546	1,177
CNEL:	126	272	587	1,264

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Mesa to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,446 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,667 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.23	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.00	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.96	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.8
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.2	73.3	70.2	65.4	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	239	514	1,107
CNEL:	119	256	552	1,189

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,634 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,600 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.15	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.08	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.04	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.4	71.3	69.6	63.5	72.2	72.8
Medium Trucks:	66.0	65.3	58.9	57.4	65.9	66.1
Heavy Trucks:	66.4	65.8	56.8	58.0	66.4	66.5
Vehicle Noise:	74.1	73.2	70.1	65.4	73.9	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	236	508	1,094
CNEL:	117	253	545	1,175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: California Avenue to Mesa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,321 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,574 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.12	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.12	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.07	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.4	71.3	69.6	63.5	72.1	72.7
Medium Trucks:	66.0	65.3	58.9	57.4	65.8	66.1
Heavy Trucks:	66.4	65.8	56.7	58.0	66.3	66.5
Vehicle Noise:	74.1	73.2	70.1	65.3	73.9	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	234	505	1,088
CNEL:	117	252	543	1,169

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,432 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,006 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	863
CNEL:	93	200	430	927

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,332 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,595 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.38	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-17.62	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-21.58	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.3	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	586
CNEL:	63	136	292	629

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,489 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,680 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.37	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.9	69.0	65.9	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	371	799
CNEL:	86	185	399	859

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: San Joaquin to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,608	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,443	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	751
CNEL:	81	174	375	807

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Harvard Avenue to San Joaquin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,483 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,432 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.2	52.1	53.4	61.7	61.8
Vehicle Noise:	69.5	68.5	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	348	749
CNEL:	80	173	374	805

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Valley Oak Drive
Road Segment: Hawkcreek to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,484 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,112 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.95	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.4
Medium Trucks:	59.6	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	92	198	426
CNEL:	46	99	213	458

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Valley Oak Drive
Road Segment: Irvine Center Drive to Oak Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,004 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	908 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.83	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-20.07	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-24.02	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.7	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.1	60.5	51.4	52.7	61.0	61.2
Vehicle Noise:	68.8	67.9	64.8	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	87	187	402
CNEL:	43	93	201	432

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Valley Oak Drive
Road Segment: Barranca Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,125 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	835 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-20.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-24.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.4
Heavy Trucks:	58.7	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	66.5	65.5	62.5	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	352
CNEL:	38	82	176	378

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Valley Oak Drive
Road Segment: Alton Parkway to Hawkcreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,517 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	538 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.4	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	56.8	56.2	47.2	48.5	56.8	56.9
Vehicle Noise:	64.5	63.6	60.6	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	122	263
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Marriott to Morse Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,440 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,841 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.6	69.7	66.6	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	669
CNEL:	72	155	333	717

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Michelson Drive to Quartz

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,121 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,732 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	70.5	69.6	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	652
CNEL:	70	151	324	699

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,658 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,694 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.3	61.7	55.3	53.7	62.2	62.4
Heavy Trucks:	63.2	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	70.4	69.5	66.3	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	300	646
CNEL:	69	149	321	692

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,666 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,355 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.31	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.93	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	84.25	-17.89	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.8	62.2	53.2	54.5	62.8	62.9
Vehicle Noise:	70.1	69.2	66.0	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	736
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Main Street to Anchor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,991 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,639 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	637
CNEL:	68	147	317	683

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Anchor to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,891 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,549 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	70.2	69.3	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	667

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Morse to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,382 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,424 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.5
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	279	602
CNEL:	65	139	300	645

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Martin to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,189	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,078	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.1
Vehicle Noise:	69.3	68.4	65.2	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	543
CNEL:	58	125	270	582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Campus Drive to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,686 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,037 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.2	68.3	65.1	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	57	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,689 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,037 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.2	68.3	65.1	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	57	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Jeffrey Road to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,097 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,813 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	70.6	69.7	66.5	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	664
CNEL:	71	154	331	713

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Myford Road to Jamboree Road SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,555 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,861 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.6	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	68.8	67.9	64.7	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	504
CNEL:	54	117	251	541

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: The Mall Street to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,739 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,711 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.86	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.4	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	477
CNEL:	51	110	237	512

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Harvard Avenue to The Mall Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,671 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,705 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	510

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Franciscan Street to Ravenwood Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,169 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,581 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	210	453
CNEL:	49	105	225	485

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Ravenwood Street to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,154 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,580 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.8	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	210	452
CNEL:	49	105	225	485

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Culver Drive to Franciscan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,884 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,558 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	59.9	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	68.0	67.1	64.0	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	208	448
CNEL:	48	104	223	481

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Peters Canyon Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,274 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,085 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	263	568
CNEL:	61	131	283	609

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Walnut Avenue
Job Number: 15937
Road Segment: Jamboree Road NB Off-Ramp to Peters Canyon Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,014 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	60.2	59.7	50.6	51.9	60.2	60.4
Vehicle Noise:	67.5	66.6	63.4	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	554
CNEL:	59	128	276	595

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Yale Avenue to Kazan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,189 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	58.8	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	374
CNEL:	40	86	186	401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Wisteria to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,301 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,180 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Warner Avenue
Road Segment: Jamboree Road SB Off-ramp to Construction North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,399 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.9	69.0	65.8	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	277	597
CNEL:	64	138	297	641

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Warner Avenue
Road Segment: Construction North to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,183	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,665	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Warner Avenue
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,998 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,155 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	367
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Warner Avenue
Road Segment: Santa Ynez to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,117 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	917 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.6	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Warner Avenue
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,312 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	851 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	299
CNEL:	32	69	149	321

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Alton Parkway to Blue Lake North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,402 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	776 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	54	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Eagle Run to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,077 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	749 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.5	54.9	48.5	47.0	55.4	55.7
Heavy Trucks:	56.9	56.3	47.2	48.5	56.8	57.0
Vehicle Noise:	63.6	62.7	59.4	54.9	63.4	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	227
CNEL:	24	52	113	243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Thunder Run to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,148 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	755 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.8	52.7	61.3	61.9
Medium Trucks:	55.6	54.9	48.5	47.0	55.5	55.7
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	63.6	62.7	59.4	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	228
CNEL:	24	53	113	244

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Main Street to Timber Run

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,350 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	606 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.6	57.8	51.8	60.4	61.0
Medium Trucks:	54.6	54.0	47.6	46.0	54.5	54.7
Heavy Trucks:	55.9	55.4	46.3	47.6	55.9	56.1
Vehicle Noise:	62.7	61.8	58.5	53.9	62.5	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	42	91	197
CNEL:	21	45	98	211

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Yale Avenue to Shorebird

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,270 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	600 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	59.5	57.8	51.7	60.3	60.9
Medium Trucks:	54.6	53.9	47.5	46.0	54.5	54.7
Heavy Trucks:	55.9	55.3	46.3	47.5	55.9	56.0
Vehicle Noise:	62.6	61.7	58.4	53.9	62.4	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	42	91	195
CNEL:	21	45	97	209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Warner Avenue to Stonecreek South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,777 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	559 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.5	51.4	60.0	60.6
Medium Trucks:	54.3	53.6	47.2	45.7	54.2	54.4
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	87	187
CNEL:	20	43	93	200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,586 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	543 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	55.5	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.2	61.3	58.0	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Stonecreek North to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,484 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	535 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.3	51.2	59.8	60.5
Medium Trucks:	54.1	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	57.9	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Birdsong to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.5	53.9	54.1
Heavy Trucks:	55.3	54.8	45.7	47.0	55.3	55.5
Vehicle Noise:	62.1	61.2	57.9	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	180
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Westwood
Road Segment: Yorktown to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,072 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	501 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.86	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-21.10	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-25.06	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.1	56.6	47.5	48.8	57.1	57.3
Vehicle Noise:	63.3	62.4	59.0	54.6	63.1	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	130
CNEL:	14	30	65	139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Westwood
Road Segment: Bryan Avenue to Leaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,762 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	310 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.94	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.18	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.14	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.9	56.2	50.1	58.7	59.3
Medium Trucks:	53.2	52.6	46.2	44.6	53.1	53.3
Heavy Trucks:	55.1	54.5	45.4	46.7	55.0	55.2
Vehicle Noise:	61.2	60.3	56.9	52.5	61.0	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	44	95
CNEL:	10	22	47	101

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Deerfield Avenue to Winvale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,511 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	867 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.81	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.76	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Hicks Canyon Drive to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,814 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	645 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.86	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.10	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.05	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	54	116	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Walnut Avenue to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,547 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,200 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.40	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-22.35	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	70.7	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	201	433
CNEL:	46	100	216	465

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,133	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,166	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.5	58.9	49.9	51.2	59.5	59.6
Vehicle Noise:	66.8	65.9	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	171	369
CNEL:	40	85	184	396

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,725 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,132 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.6	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.6	65.7	62.6	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	362
CNEL:	39	84	180	389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: West Yale Loop to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,926 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	984 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	330
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Winvale Avenue to Karen Ann Lane

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	851 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	299
CNEL:	32	69	149	321

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Karen Ann Lane to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	851 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	299
CNEL:	32	69	149	321

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Trabuco Road to Southwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,111 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	834 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.2	56.6	50.2	48.7	57.1	57.3
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	65.3	64.4	61.3	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	137	295
CNEL:	32	68	147	317

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Southwood to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,802 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	809 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.0
Vehicle Noise:	65.2	64.3	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	134	289
CNEL:	31	67	144	310

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Northwood to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,152 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	755 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	64.9	64.0	60.8	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	128	276
CNEL:	30	64	138	297

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,918	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	736	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.7	56.0	49.7	48.1	56.6	56.8
Heavy Trucks:	57.5	56.9	47.9	49.2	57.5	57.6
Vehicle Noise:	64.8	63.9	60.7	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	126	272
CNEL:	29	63	135	291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Irvine Boulevard to Park Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,463 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	616 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	56.8	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.0	63.1	59.9	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: University Drive to Royce

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,940 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	325 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.83	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-24.07	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-28.03	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.1	54.4	48.1	46.5	55.0	55.2
Heavy Trucks:	55.9	55.3	46.3	47.6	55.9	56.0
Vehicle Noise:	63.2	62.3	59.1	54.4	63.0	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	183

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Court
Road Segment: Arborwood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	530 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.15	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-19.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-23.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.2	54.4	48.3	57.0	57.6
Medium Trucks:	52.1	51.4	45.0	43.5	51.9	52.2
Heavy Trucks:	55.3	54.7	45.6	46.9	55.2	55.4
Vehicle Noise:	60.1	59.3	55.4	51.4	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Ada
Road Segment: Barranca Parway to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,902 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.35	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-15.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-19.84	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	70.5	69.6	66.3	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	394
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Ada
Road Segment: Alton Parkway to Barranca PArkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,284 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,581 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	69.0	68.1	64.8	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	240	517
CNEL:	55	119	257	554

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Enterprise to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	76,734 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,331 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.9	70.8	69.1	63.0	71.7	72.3
Medium Trucks:	65.5	64.8	58.4	56.9	65.4	65.6
Heavy Trucks:	65.9	65.3	56.3	57.5	65.9	66.0
Vehicle Noise:	73.6	72.7	69.6	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	305	658	1,418
CNEL:	152	328	707	1,523

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: I-5 NB Off-Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	80,974 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,680 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.84	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.40	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.35	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	66.1	65.4	59.1	57.5	66.0	66.2
Heavy Trucks:	66.5	65.9	56.9	58.2	66.5	66.6
Vehicle Noise:	74.3	73.3	70.3	65.5	74.1	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	149	321	692	1,490
CNEL:	160	345	743	1,601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,275 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,663 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.84	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	763
CNEL:	82	177	380	820

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Gateway Boulevard to Enterprise

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,790 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,860 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.7	56.3	54.7	63.2	63.4
Heavy Trucks:	63.7	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.5	70.5	67.5	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	220	473	1,019
CNEL:	110	236	508	1,095

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Jeffrey Road to Royal Oak

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,682 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,119 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.2
Medium Trucks:	62.4	61.7	55.3	53.8	62.3	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	141	304	655
CNEL:	70	152	327	704

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Daimler Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,892 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,054 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	298	642
CNEL:	69	149	320	689

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,826 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,048 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	641
CNEL:	69	148	319	688

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,661 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,035 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	638
CNEL:	69	148	318	685

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,944 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,120 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.74	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.50	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.45	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.4	63.9	54.8	56.1	64.4	64.5
Vehicle Noise:	72.2	71.2	68.2	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	501	1,080
CNEL:	116	250	539	1,160

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Creek Road to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,013 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.3	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	294	633
CNEL:	68	147	316	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Red Hill Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,984 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.6	68.3	68.9
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	313	674

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,143 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,909 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.8	52.7	54.0	62.3	62.4
Vehicle Noise:	70.1	69.1	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	284	611
CNEL:	66	141	305	657

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Telemetry to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,349 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,926 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	615
CNEL:	66	142	307	661

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Irvine Boulevard to Commercentre

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,497 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,176 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	193	415	895
CNEL:	96	207	446	962

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Jenner to Telemetry

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,981 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,896 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	608
CNEL:	65	141	303	654

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Irvine Center Drive to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,393 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,250 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	422	909
CNEL:	98	210	453	977

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Sand Canyon Avenue to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,269 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,075 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.47	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.77	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.72	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.8	71.5	72.1
Medium Trucks:	65.3	64.6	58.3	56.7	65.2	65.4
Heavy Trucks:	65.7	65.1	56.1	57.3	65.7	65.8
Vehicle Noise:	73.4	72.5	69.5	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	212	457	984
CNEL:	106	228	491	1,058

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Laguna Canyon Road to Jenner

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,856 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	600
CNEL:	64	139	299	644

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Technology Drive East to Barranca Pkwy/Muirlands Blvd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,222 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,153 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.6	69.7	66.6	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	891
CNEL:	96	206	444	957

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Royal Oak to Valley Oak Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,595 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,782 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.1
Vehicle Noise:	69.8	68.8	65.8	61.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	584
CNEL:	63	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,170 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,746 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.7	68.7	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	576
CNEL:	62	133	287	619

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Barranca Pkwy/Muirlands Blvd to Jeronimo Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,780 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,787 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	820
CNEL:	88	190	409	881

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Ada to Technology Drive East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,965 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,802 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.1	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	823
CNEL:	88	191	411	885

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,836 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,636 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.7	61.1	52.0	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.4	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	256	552
CNEL:	59	128	275	593

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Jeronimo Road to Hughes

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,590 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	363	781
CNEL:	84	181	390	839

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Hughes to Morgan
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,451 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.75	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.71	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	753
CNEL:	81	174	376	809

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Morgan to Toledo Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,095 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.5	51.4	52.7	61.0	61.1
Vehicle Noise:	68.8	67.8	64.8	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	673
CNEL:	72	156	336	723

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: San Marino to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,692 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,120 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.7	60.1	53.7	52.1	60.6	60.8
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.2
Vehicle Noise:	68.9	67.9	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	317	684
CNEL:	73	158	341	734

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,799 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,128 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.37	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.2	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	68.9	68.0	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	318	685
CNEL:	74	159	342	736

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Hospital to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,005 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,063 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.74	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.50	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.46	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.6	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.7	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	163	350	754
CNEL:	81	175	376	811

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,016 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,981 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.56	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.68	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.63	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	734
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Murphy Avenue to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,679 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,036 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.7	67.8	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	143	309	665
CNEL:	71	154	332	715

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Foster to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,362 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,927 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.4	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	298	642
CNEL:	69	149	320	689

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Fairbanks to Foster

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,132 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,826 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.3	66.9
Medium Trucks:	60.1	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	66	143	309	665

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Toledo Way to Bertea

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,840 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	613
CNEL:	66	142	306	659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Pacifica to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,898 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,889 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.35	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.88	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.84	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.4	70.0
Medium Trucks:	63.2	62.5	56.1	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	330	711
CNEL:	76	165	355	764

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Bertea to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,315 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,758 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Meridian to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,652 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,704 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	66.0	66.6
Medium Trucks:	59.8	59.1	52.7	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	63.9	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	591
CNEL:	63	137	295	635

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Paseo Westpark to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,780 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,714 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	593
CNEL:	64	137	296	638

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Harvard Avenue to Paseo Westpark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,451 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,522 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.82	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.78	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.3	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.4	66.5	63.5	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	548
CNEL:	59	127	273	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Astor
Road Segment: Lynx to Fairbanks
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,609 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.88	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-15.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-19.32	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.8	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.3
Vehicle Noise:	66.8	65.9	62.3	58.1	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	222
CNEL:	24	51	110	237

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Astor
Road Segment: Cadence to Lynx
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,820 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,223 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.68	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-16.56	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-20.51	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.6	56.9	50.5	49.0	57.5	57.7
Heavy Trucks:	60.0	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	65.6	64.7	61.1	56.9	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	185
CNEL:	20	43	92	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: I-5 NB Off-Ramp to Rockfield Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	95,791 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,903 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.57	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-10.67	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-14.62	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.7	73.6	71.8	65.8	74.4	75.0
Medium Trucks:	68.2	67.6	61.2	59.7	68.1	68.3
Heavy Trucks:	68.6	68.1	59.0	60.3	68.6	68.8
Vehicle Noise:	76.4	75.4	72.4	67.6	76.2	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	257	555	1,195	2,574
CNEL:	277	596	1,284	2,766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Muirlands Boulevard to Jeronimo Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,823 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,100 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.5	63.9	57.5	56.0	64.4	64.7
Heavy Trucks:	65.0	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	72.7	71.8	68.7	63.9	72.5	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	264	570	1,227
CNEL:	132	284	612	1,319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Rockfield Boulevard to Muirlands Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,605	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,495	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.99	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.25	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.20	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	66.7	66.0	59.6	58.1	66.5	66.8
Heavy Trucks:	67.1	66.5	57.4	58.7	67.0	67.2
Vehicle Noise:	74.8	73.9	70.8	66.0	74.6	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	435	938	2,021
CNEL:	217	468	1,008	2,171

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Jeronimo Road to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,866 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,114 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	494	1,064
CNEL:	114	246	530	1,143

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Toledo Way to Cromwell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,021 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,797 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.3	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.7	63.1	54.0	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.4	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	217	468	1,008
CNEL:	108	233	503	1,083

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Cromwell to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,768 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.7
Vehicle Noise:	71.4	70.4	67.4	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	466	1,003
CNEL:	108	232	500	1,078

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Research Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,545 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,355 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.7	67.4	68.0
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.3	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	340	733
CNEL:	79	170	366	788

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Irvine Center Drive to Research Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,944 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	820 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-20.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-24.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	56.6	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	64.7	63.8	60.8	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	363
CNEL:	39	84	181	390

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Lake Forest Drive to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,379 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	609 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-21.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-25.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	55.7	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	63.4	62.5	59.5	54.7	63.2	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	148	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Banting
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,367 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	443 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-21.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-25.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.7	56.6	54.8	48.8	57.4	58.0
Medium Trucks:	51.9	51.2	44.8	43.3	51.8	52.0
Heavy Trucks:	53.7	53.1	44.1	45.4	53.7	53.8
Vehicle Noise:	59.9	59.0	55.6	51.2	59.7	60.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	129
CNEL:	14	30	64	137

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Pacifica to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,481 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,845 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.2	68.4	62.4	71.0	71.6
Medium Trucks:	64.6	64.0	57.6	56.1	64.5	64.8
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.8	71.9	68.9	64.1	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	434	936
CNEL:	101	217	467	1,007

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,533 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,601 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.3	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.4	71.5	68.6	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	409	882
CNEL:	95	204	440	948

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: I-5 HOV Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,208	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,575	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.2	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.2	63.7	54.6	55.9	64.2	64.3
Vehicle Noise:	72.4	71.5	68.5	63.6	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	406	876
CNEL:	94	203	437	942

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,730 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,535 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.1	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	402	867
CNEL:	93	201	433	932

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Irvine Center Drive to I-5 HOV Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,070 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,398 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.98	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.7	61.6	70.2	70.9
Medium Trucks:	63.9	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	63.9	63.3	54.3	55.6	63.9	64.0
Vehicle Noise:	72.1	71.2	68.2	63.3	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	388	835
CNEL:	90	194	417	898

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,213 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,328 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.6	61.5	70.1	70.7
Medium Trucks:	63.8	63.1	56.7	55.2	63.7	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	72.0	71.0	68.1	63.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	380	819
CNEL:	88	190	409	881

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: East Yale Loop to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,535 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,272 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.7	63.0	56.6	55.1	63.6	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.9	70.9	68.0	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	374	805
CNEL:	87	187	402	866

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,880 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,218 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.9	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	793
CNEL:	85	184	396	853

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Ada to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,022 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,229 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.8	70.8	67.9	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	171	369	795
CNEL:	86	184	397	856

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Lake Road to Creek Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,073 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.3	62.6	56.2	54.7	63.2	63.4
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.5	70.5	67.6	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	352	758
CNEL:	82	176	378	815

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Red Hill Avenue to Armstrong Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,369 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,990 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.19	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.05	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.01	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.9	71.8	70.0	64.0	72.6	73.2
Medium Trucks:	66.3	65.6	59.2	57.7	66.1	66.4
Heavy Trucks:	66.3	65.7	56.7	57.9	66.3	66.4
Vehicle Noise:	74.4	73.5	70.6	65.7	74.2	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	192	413	889	1,916
CNEL:	206	444	957	2,061

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Discovery/Herchel to Banting
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,373 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,011 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	743
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Lyon to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,735 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,958 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.7	69.4	70.0
Medium Trucks:	63.0	62.4	56.0	54.4	62.9	63.1
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	71.2	70.3	67.3	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	730
CNEL:	78	169	364	785

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Creek Road to Lyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,344 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,926 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	71.1	70.2	67.3	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	335	721
CNEL:	78	167	360	776

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,730 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,443 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.55	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.69	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.65	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.3
Heavy Trucks:	64.3	63.7	54.6	55.9	64.2	64.4
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	522	1,124
CNEL:	121	261	561	1,209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Sand Canyon Avenue to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,369 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,680 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.4	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.5	69.6	66.7	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	306	659
CNEL:	71	153	329	709

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Armstrong Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,026 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,220 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.26	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.98	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.94	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	63.9	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.0	63.4	54.3	55.6	64.0	64.1
Vehicle Noise:	72.1	71.2	68.2	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	232	499	1,075
CNEL:	116	249	537	1,157

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,863 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,639 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.4	69.5	66.6	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	301	648
CNEL:	70	150	323	697

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Jamboree Road to Construction Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,487 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,598 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	919
CNEL:	99	213	459	988

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Santa Rosa to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,840 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,544 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.5	62.0	52.9	54.2	62.5	62.6
Vehicle Noise:	70.7	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	906
CNEL:	97	210	452	975

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: FedEx to Discovery/Herchel

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,901 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,477 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	70.0	69.1	66.1	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	281	604
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Jeffrey Road to Valley Oak Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,889 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,476 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	70.0	69.1	66.1	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Laguna Canyon Road to FedEx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,450 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,440 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.9	68.9	66.0	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	276	594
CNEL:	64	138	297	639

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Pullman Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,245	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,073	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.05	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-15.19	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-19.14	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.8	71.5	72.1
Medium Trucks:	65.1	64.4	58.1	56.5	65.0	65.2
Heavy Trucks:	65.1	64.6	55.5	56.8	65.1	65.3
Vehicle Noise:	73.3	72.4	69.4	64.5	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	161	347	747	1,609
CNEL:	173	373	804	1,731

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Construction Circle to Fire Station
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,622 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,279 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.4	61.9	62.1
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	391	842
CNEL:	91	195	420	906

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Fire Station to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,622 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,279 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.4	61.9	62.1
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	391	842
CNEL:	91	195	420	906

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Paseo Westpark to Santa Rosa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,925 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,304 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	394	848
CNEL:	91	197	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,798	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,128	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.8
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	173	373	804
CNEL:	87	186	402	865

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bay Tree
Road Segment: Trabuco Road to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,720 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	224 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.7	53.6	51.9	45.8	54.4	55.1
Medium Trucks:	48.9	48.3	41.9	40.3	48.8	49.0
Heavy Trucks:	50.8	50.2	41.2	42.4	50.8	50.9
Vehicle Noise:	56.9	56.1	52.6	48.2	56.8	57.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	41	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Beacon
Road Segment: Ridge Valley to Benchmark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,587 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	296 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.48	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-22.72	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-26.67	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.9	55.8	54.1	48.0	56.6	57.3
Medium Trucks:	51.4	50.7	44.4	42.8	51.3	51.5
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	59.4	58.6	54.9	50.7	59.2	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	72
CNEL:	8	17	36	77

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Benchmark (LN Street)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,743 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	144 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.61	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.85	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.81	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.8	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	48.3	47.6	41.2	39.7	48.2	48.4
Heavy Trucks:	50.7	50.2	41.1	42.4	50.7	50.9
Vehicle Noise:	56.3	55.4	51.8	47.6	56.1	56.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	10	21	44
CNEL:	5	10	22	47

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bison Avenue
Road Segment: SR-73 NB Off-Ramp to California Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,152 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,158 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	258	557
CNEL:	60	129	277	597

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bonita Canyon Drive
Road Segment: MacArthur Boulevard to SR-73

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,797 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,541 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.64	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.60	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-19.55	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.7
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	728
CNEL:	78	169	363	782

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bonita Canyon Drive
Road Segment: Turtle Ridge to Shady Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,746 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,712 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.07	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.31	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.27	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.3	59.5	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	560
CNEL:	60	130	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bonita Canyon Drive
Road Segment: Newport Coast Drive to Turtle Ridge
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,113 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,577 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.43	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.67	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.62	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	530
CNEL:	57	123	264	569

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bonita Canyon Drive
Road Segment: SR-73 NB Off-Ramp to Newport Coast Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,182 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,500 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.65	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.89	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.84	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	238	513
CNEL:	55	119	256	551

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bosque
Road Segment: Cadence to Great Park Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,864 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,061 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.07	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-17.17	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-21.13	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	57.0	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	59.4	58.8	49.8	51.1	59.4	59.5
Vehicle Noise:	65.0	64.1	60.5	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	78	169
CNEL:	18	39	83	180

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bosque
Road Segment: Irvine Boulevard to Benchmark (LN Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,621 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	711 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.67	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-18.91	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-22.86	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.7	57.9	51.8	60.5	61.1
Medium Trucks:	55.2	54.6	48.2	46.6	55.1	55.3
Heavy Trucks:	57.7	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	63.2	62.4	58.7	54.5	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	129
CNEL:	14	30	64	138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bosque
Road Segment: Benchmark to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,923 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	654 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-2.04	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.27	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.23	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.3	57.5	51.5	60.1	60.7
Medium Trucks:	54.9	54.2	47.8	46.3	54.7	55.0
Heavy Trucks:	57.3	56.7	47.7	49.0	57.3	57.4
Vehicle Noise:	62.9	62.0	58.4	54.2	62.7	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bosque
Road Segment: Great Park Boulevard to Beacon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,837 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	152 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.39	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.62	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.58	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	52.9	51.2	45.1	53.7	54.3
Medium Trucks:	48.5	47.8	41.5	39.9	48.4	48.6
Heavy Trucks:	51.0	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	56.5	55.6	52.0	47.8	56.3	56.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	21	46
CNEL:	5	11	23	49

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bosque
Road Segment: Beacon to S 5th Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,592 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	131 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-9.01	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-26.24	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-30.20	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.4	52.3	50.5	44.5	53.1	53.7
Medium Trucks:	47.9	47.2	40.9	39.3	47.8	48.0
Heavy Trucks:	50.4	49.8	40.7	42.0	50.3	50.5
Vehicle Noise:	55.9	55.0	51.4	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Jamboree Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,217 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,833 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	60.7	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	68.7	67.8	64.7	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	232	499
CNEL:	54	115	249	536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Market Place to El Camino Real
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,788 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	491
CNEL:	53	114	245	527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Rubicon to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,708 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,791 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	492
CNEL:	53	114	245	527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: El Camino Real to Rubicon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,532 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,776 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	489
CNEL:	52	113	243	525

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Eastwood to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,067 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,161 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.3
Medium Trucks:	58.7	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	368
CNEL:	39	85	183	395

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Westwood to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,963 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,069 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.3	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.2	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	66.4	65.5	62.3	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	349
CNEL:	37	81	174	374

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Culver Drive to Westwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,769 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,053 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	58.2	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.3	65.4	62.3	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	74	160	345
CNEL:	37	80	172	370

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Yale Avenue to Eastwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,526 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,033 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	58.2	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.0	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	66.2	65.3	62.2	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	341
CNEL:	37	79	170	366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Cadence
Road Segment: Pusan to Chinon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,014 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	579 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.82	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.05	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-25.01	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.3	64.4	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	83	178
CNEL:	19	41	89	191

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Cadence
Road Segment: Bosque to Pusan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,558 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	541 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.11	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.35	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-25.30	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.0	56.4	50.0	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	50.0	58.3	58.4
Vehicle Noise:	65.0	64.2	60.9	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Cadence
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,749 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	392 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.51	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.75	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.70	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	55.6	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	56.9	56.3	47.3	48.6	56.9	57.0
Vehicle Noise:	63.6	62.8	59.5	54.9	63.5	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	137
CNEL:	15	32	68	147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Cadence
Road Segment: Chinon to Merit
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,233 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	267 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.18	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-24.42	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-28.37	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.0	53.3	46.9	45.4	53.8	54.1
Heavy Trucks:	55.3	54.7	45.6	46.9	55.2	55.4
Vehicle Noise:	62.0	61.1	57.8	53.3	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	49	106
CNEL:	11	25	53	114

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Cadence
Road Segment: Merit to Astor
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,697 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.98	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-27.22	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-31.17	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.1	54.3	48.3	56.9	57.5
Medium Trucks:	51.2	50.5	44.1	42.6	51.0	51.3
Heavy Trucks:	52.5	51.9	42.8	44.1	52.4	52.6
Vehicle Noise:	59.2	58.3	55.0	50.5	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	74

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: California Avenue
Road Segment: University Drive to Academy Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,919 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,643 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	59.0	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	60.3	59.7	50.6	51.9	60.3	60.4
Vehicle Noise:	67.0	66.1	62.8	58.3	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	178	383
CNEL:	41	88	190	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: California Avenue
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,803 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	809 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.9	55.2	48.8	47.3	55.8	56.0
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	63.9	63.0	59.7	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	239
CNEL:	26	55	119	255

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: California Avenue
Road Segment: Theory to Bison Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,378 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	774 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.1
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	53	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Carlson Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,153 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,405 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.40	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-15.84	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-19.79	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.4	71.1	71.7
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	73.0	72.1	69.0	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	770
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: University Drive to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,999 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,640 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.4
Heavy Trucks:	63.7	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.5	70.5	67.5	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	352	759
CNEL:	82	176	378	815

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Jamboree Road to Carlson Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,629 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,527 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.3	70.4	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	737
CNEL:	79	171	367	792

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Stanford Court to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,357 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,257 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	70.8	69.9	66.8	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	317	683
CNEL:	73	158	341	734

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: California Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,178 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	667
CNEL:	72	154	333	717

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Berkeley Avenue to Cornell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,031 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,735 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	124	266	573
CNEL:	62	133	286	616

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Martin to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,561 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,449 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.7	60.1	53.7	52.1	60.6	60.8
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.2
Vehicle Noise:	68.9	67.9	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	236	509
CNEL:	55	118	254	546

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Campus Drive
Job Number: 15937
Road Segment: Culver Drive to Paseo Montoya (Turtle Rock Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,896 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,311 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Von Karman Avenue to Teller Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,241 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.1	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.5	59.9	50.8	52.1	60.4	60.6
Vehicle Noise:	68.2	67.3	64.2	59.4	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	459
CNEL:	49	106	229	493

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: MacArthur Boulevard to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,413 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,189 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	59.9	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.0	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	207	446
CNEL:	48	103	222	479

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Teller Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,202 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,007 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.4	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	185	399
CNEL:	43	92	199	429

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Carlson Avenue
Road Segment: Michelson Drive to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,323 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,099 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.5	58.9	52.5	50.9	59.4	59.6
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.0
Vehicle Noise:	67.7	66.7	63.7	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	196	423
CNEL:	45	98	211	454

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Chinon
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,756 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	392 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.46	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-20.70	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-24.66	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.9	54.8	53.1	47.0	55.6	56.3
Medium Trucks:	50.7	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	54.0	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	58.8	58.0	54.0	50.1	58.6	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	14	30	65
CNEL:	7	15	32	70

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Creek Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,796 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	396 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-20.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-24.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.1	52.0	50.2	44.2	52.8	53.4
Medium Trucks:	47.9	47.2	40.9	39.3	47.8	48.0
Heavy Trucks:	51.1	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	55.9	55.1	51.2	47.3	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	71
CNEL:	7	16	35	75

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,961 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,029 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.3	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.7	69.8	64.9	73.5	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	307	662	1,427
CNEL:	154	331	713	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,836 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,936 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.13	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.6	69.7	64.8	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	654	1,409
CNEL:	152	327	704	1,516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,896 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,024 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.01	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.3	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.6	72.7	69.8	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	307	662	1,426
CNEL:	153	331	712	1,534

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Scottsdale Drive to I-5 SB Off- Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,899 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,942 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.7	69.7	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	655	1,410
CNEL:	152	327	704	1,517

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: I-405 NB Off-Ramp to San Leandro

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,751 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,682 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.2	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.3	72.4	69.5	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	293	631	1,360
CNEL:	146	315	679	1,464

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: San Leandro to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,116 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,382 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	280	604	1,302
CNEL:	140	302	650	1,400

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Harvard Avenue to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,212 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,390 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	281	605	1,303
CNEL:	140	302	651	1,402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Trabuco Road to Farwell Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,906 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.08	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.15	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.11	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.4	71.3	69.5	63.5	72.1	72.7
Medium Trucks:	65.8	65.1	58.7	57.2	65.7	65.9
Heavy Trucks:	65.8	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	74.0	73.0	70.1	65.2	73.8	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	307	661	1,424
CNEL:	153	330	711	1,532

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,527 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,251 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	275	592	1,276
CNEL:	137	296	637	1,372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Main Street to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,133 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	270	581	1,252
CNEL:	135	290	625	1,347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Warner Avenue to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,101 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,051 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.94	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.3	70.9	71.5
Medium Trucks:	64.5	63.9	57.5	55.9	64.4	64.6
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.7	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	124	266	573	1,235
CNEL:	133	286	617	1,329

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Walnut Avenue to Scottsdale Dive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,057 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,965 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.4	63.8	57.4	55.9	64.3	64.5
Heavy Trucks:	64.5	63.9	54.8	56.1	64.4	64.6
Vehicle Noise:	72.6	71.7	68.7	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	262	565	1,218
CNEL:	131	282	608	1,310

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,820 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,945 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.1	70.8	71.4
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.9	54.8	56.1	64.4	64.6
Vehicle Noise:	72.6	71.7	68.7	63.8	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	563	1,214
CNEL:	131	281	606	1,306

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Shady Canyon Drive to Palo Verde

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,587 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,193 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.2	69.9	70.5
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.5	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.7	70.8	67.8	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	365	787
CNEL:	85	182	393	846

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Deerfield Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,656 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	64.0	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	249	535	1,154
CNEL:	124	267	576	1,241

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Sandburg Way to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,084 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,637 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.2	71.3	68.4	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,150
CNEL:	124	266	574	1,237

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,249 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,568 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.0	63.3	56.9	55.4	63.9	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.2	71.2	68.3	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	527	1,135
CNEL:	122	263	567	1,221

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Palo Verde to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,255 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,001 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	344	740
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: University Drive to Sandburg Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,762 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,363 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.4	70.1	70.7
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	63.7	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	235	506	1,091
CNEL:	117	253	545	1,174

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Farwell Avenue to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,855 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,866 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.05	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.19	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.14	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	262	564	1,214
CNEL:	131	281	606	1,307

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Campus Drive to High School

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,109 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,309 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	68.0	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	501	1,079
CNEL:	116	250	539	1,161

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: High School to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,343 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,246 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.8	70.8	67.9	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	495	1,066
CNEL:	115	247	532	1,146

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Bryan Avenue to Florence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,291 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,076 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.4
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	222	477	1,028
CNEL:	111	238	513	1,106

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Portola Parkway to Settlers

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,133 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,826 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	150	323	696
CNEL:	75	161	348	749

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Florence to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,478 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,009 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.23	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	470	1,013
CNEL:	109	235	506	1,090

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Irvine Boulevard to Viewpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,880 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,300 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	182	393	847
CNEL:	91	196	423	911

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Viewpark to Meadowood
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,228 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.0
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	385	829
CNEL:	89	192	414	892

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Settlers to Furrow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,905 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	982 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.7	66.4	67.0
Medium Trucks:	60.0	59.4	53.0	51.4	59.9	60.1
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	68.2	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	214	461
CNEL:	50	107	230	495

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Meadowood to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,491 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,608 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.76	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	667
CNEL:	72	155	333	718

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Discovery Drive
Road Segment: Irvine Center Drive to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,390 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	775 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	53	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Discovery Drive
Road Segment: Waterworks Way to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,001 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	413 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-22.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.9	56.2	50.1	58.7	59.3
Medium Trucks:	53.0	52.3	45.9	44.4	52.8	53.1
Heavy Trucks:	54.3	53.7	44.6	45.9	54.3	54.4
Vehicle Noise:	61.0	60.1	56.8	52.3	60.8	61.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	71	152
CNEL:	16	35	76	163

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: East Yale Loop
Road Segment: Alton Parkway to Witherspoon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,347 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,101 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.5	57.9	48.9	50.2	58.5	58.6
Vehicle Noise:	65.3	64.4	61.1	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	68	146	314

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: East Yale Loop
Road Segment: Osborn Street to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,680 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,046 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	57.0	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.9	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	303

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: East Yale Loop
Road Segment: Yale Avenue to Springbrook South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,525 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	951 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.5	59.8	53.7	62.3	63.0
Medium Trucks:	56.6	55.9	49.5	48.0	56.5	56.7
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	64.6	63.7	60.4	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	57	123	266
CNEL:	28	61	132	285

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: East Yale Loop
Road Segment: Springbrook North to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	702 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.98	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	60.2	58.5	52.4	61.0	61.6
Medium Trucks:	55.3	54.6	48.2	46.7	55.1	55.4
Heavy Trucks:	56.6	56.0	47.0	48.2	56.6	56.7
Vehicle Noise:	63.3	62.4	59.1	54.6	63.1	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	217
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: East Yale Loop
Road Segment: Woodspring to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,059 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	582 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	54.5	53.8	47.4	45.9	54.3	54.6
Heavy Trucks:	55.8	55.2	46.1	47.4	55.7	55.9
Vehicle Noise:	62.5	61.6	58.3	53.8	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	192
CNEL:	21	44	95	205

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: East Yale Loop
Road Segment: Barranca Parkway to Eastshore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,558 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	541 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.6	54.0	54.2
Heavy Trucks:	55.4	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.2	61.3	58.0	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	182
CNEL:	20	42	91	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Eastwood
Road Segment: Bryan Avenue to Monticello
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,212 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	265 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.63	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.87	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.82	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.3	57.2	55.5	49.4	58.0	58.7
Medium Trucks:	52.5	51.9	45.5	44.0	52.4	52.7
Heavy Trucks:	54.4	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	60.5	59.7	56.2	51.8	60.4	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	18	40	85
CNEL:	9	20	42	91

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Eastwood
Road Segment: Columbus to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,017 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	166 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.65	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-25.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-29.84	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.3	55.2	53.5	47.4	56.0	56.6
Medium Trucks:	50.5	49.8	43.5	41.9	50.4	50.6
Heavy Trucks:	52.4	51.8	42.7	44.0	52.3	52.5
Vehicle Noise:	58.5	57.6	54.2	49.8	58.3	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	63
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: El Camino Real
Road Segment: Jamboree Road to Alliance (SR-261 Bridge)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,372 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,598 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	58.9
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	66.9	66.0	62.7	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	174	376
CNEL:	40	87	187	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: El Camino Real North
Road Segment: El Camino Real to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	533 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.3	51.2	59.8	60.4
Medium Trucks:	54.1	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	57.9	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Fairbanks
Road Segment: Alton Parkway to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,297 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,510 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.35	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-16.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-20.85	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	69.5	68.6	65.3	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	157	338
CNEL:	36	78	168	362

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Fairbanks
Road Segment: Irvine Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,527 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	786 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.49	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.72	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.68	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	66.7	65.8	62.5	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	219
CNEL:	23	50	109	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Fairchild Road
Road Segment: MacArthur Boulevard to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,094 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	585 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	55.9	46.9	48.2	56.5	56.6
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Gateway Boulevard
Road Segment: Alton Parkway to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,953 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,316 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-16.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-20.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.7	51.6	60.2	60.9
Medium Trucks:	55.0	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	63.0	62.2	58.5	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	208
CNEL:	22	48	103	222

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Gateway Boulevard
Job Number: 15937
Road Segment: Spectrum Center Drive (Fortune Drive) to Alton Parkway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,135 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,001 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.3	58.3	56.5	50.4	59.1	59.7
Medium Trucks:	53.8	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	61.8	61.0	57.3	53.1	61.7	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	81	174
CNEL:	18	40	86	185

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Gateway Boulevard
Road Segment: Irvine Center Drive to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,204 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	512 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-3.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-20.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-24.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.3	53.6	47.5	56.1	56.8
Medium Trucks:	50.9	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	53.4	52.8	43.8	45.0	53.4	53.5
Vehicle Noise:	58.9	58.0	54.4	50.2	58.7	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	111
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Great Park Boulevard
Road Segment: Sand Canyon to Ridge Valley

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,530 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,674 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.24	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.00	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.95	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.8
Medium Trucks:	66.1	65.4	59.0	57.5	66.0	66.2
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.2	73.3	70.2	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	239	515	1,108
CNEL:	119	257	553	1,191

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Great Park Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,566 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,862 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	279	601
CNEL:	65	139	300	646

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Great Park Boulevard (EB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,512 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	702 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.94	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.18	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.14	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	60.5	59.8	53.4	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.6	59.8	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	68	146	315

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Great Park Boulevard (WB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,517 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	620 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.48	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.72	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.68	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.3	52.9	51.4	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.1	67.1	64.1	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	270
CNEL:	29	62	135	290

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: University Drive to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,043 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,901 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.84	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-16.40	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-20.36	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.0	69.7	70.3
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.5	63.9	54.9	56.2	64.5	64.6
Vehicle Noise:	71.8	70.9	67.7	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	478
CNEL:	51	110	238	513

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Michelson Drive to Coronado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,293 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,582 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.03	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	312	673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: San Marino to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,486 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,433 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.0	69.1	65.9	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	603
CNEL:	65	139	300	647

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Coronado to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,124 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,403 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	61.9
Heavy Trucks:	62.7	62.1	53.0	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.8	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	598
CNEL:	64	138	298	642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: San Carlo to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,368 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.4
Medium Trucks:	61.8	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.8	68.9	65.8	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	592
CNEL:	64	137	295	635

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Main Street to San Carlo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,170 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,324 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.5	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	69.8	68.9	65.7	61.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	272	585
CNEL:	63	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Alton Parkway to San Leon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,344 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,678 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.2	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	219	471
CNEL:	51	109	234	505

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: San Juan to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,616 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,701 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.3	59.7	53.3	51.7	60.2	60.4
Heavy Trucks:	61.2	60.6	51.5	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.3	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	102	220	475
CNEL:	51	110	237	510

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: San Leon to San Juan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,663 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.1	60.5	51.4	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,276 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.2	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	182	392
CNEL:	42	91	195	421

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Deerfield Avenue to Poplar Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,226 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,256 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.9	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	416

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,230 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,421 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	196	421
CNEL:	45	97	210	452

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Bridge Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,811 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,387 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.0
Medium Trucks:	59.4	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	415
CNEL:	44	96	206	445

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Paseo Westpark to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,894 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,394 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.0
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	193	416
CNEL:	45	96	207	446

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Poplar Street to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,424 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,107 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.51	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-18.75	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-22.70	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.8	53.4	51.8	60.3	60.5
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	83	179	385
CNEL:	41	89	192	413

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: California Avenue to Berkeley Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,793 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,220 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	67.0	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	381
CNEL:	41	88	190	408

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Culver Drive to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,558 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,201 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Berkeley to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,193 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	66.9	66.0	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	174	375
CNEL:	40	87	187	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Warner Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,352 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,102 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	177	381

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Hicks Canyon Drive
Road Segment: Delamesa to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,209 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.25	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	75.75	-25.49	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	81.57	-29.45	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	50.0	49.3	42.9	41.4	49.9	50.1
Heavy Trucks:	51.8	51.2	42.2	43.5	51.8	51.9
Vehicle Noise:	58.0	57.1	53.7	49.3	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Hornet (5th St)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,393 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	280 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.93	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-22.17	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-26.12	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.4	53.4	51.6	45.6	54.2	54.8
Medium Trucks:	49.3	48.6	42.2	40.7	49.2	49.4
Heavy Trucks:	52.5	51.9	42.9	44.1	52.5	52.6
Vehicle Noise:	57.3	56.5	52.6	48.7	57.2	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	52
CNEL:	6	12	26	56

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Hubble
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,425 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	200 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.39	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.62	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.58	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	51.9	50.2	44.1	52.7	53.3
Medium Trucks:	47.8	47.2	40.8	39.2	47.7	47.9
Heavy Trucks:	51.0	50.4	41.4	42.7	51.0	51.1
Vehicle Noise:	55.9	55.0	51.1	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	42
CNEL:	4	10	21	44

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: SR-133 NB Off- Ramp to Ridge Valley (O Street)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,105 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,474 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	72.0	71.1	68.2	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	240	518	1,115
CNEL:	120	258	557	1,200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: SR-133 SB Off-Ramp to SR-133 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,173 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,314 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	68.0	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	502	1,081
CNEL:	116	250	540	1,163

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Sand Canyon to SR-133 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,768 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.94	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.30	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.26	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.1	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	257	554	1,194
CNEL:	128	277	596	1,285

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Merit to Alton
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.3	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,001
CNEL:	108	232	500	1,077

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Journey to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,360 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,000 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.25	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	469	1,011
CNEL:	109	234	505	1,088

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,486 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,598 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	919
CNEL:	99	213	459	988

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Pusan Way to Chinon (B Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,080 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Palo Lado to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,379 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,671 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	434	936
CNEL:	101	217	467	1,007

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Culver Drive to Palo Lado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,081 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,647 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.40	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	432	930
CNEL:	100	216	464	1,001

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,115 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,567 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.9	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Old Myford Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,303 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,583 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.5
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.8	69.8	66.9	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	197	425	915
CNEL:	98	212	457	984

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Bosque (LY Street) to Modjeska

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,785	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,540	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.5
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	70.7	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	420	905
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Jamboree Road to Old Myford Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,658 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,529 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	419	902
CNEL:	97	209	451	971

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Market Place to SR-261 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,542 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,520 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	97	209	449	968

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Jeffrey Road to Groveland

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,798 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,541 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.5
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	70.7	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	420	905
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Bake Parkway to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,721 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,370 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.2
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	70.4	69.5	66.5	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	401	864
CNEL:	93	200	431	930

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Independence Way (The Groves)/The Groves to JeffreyRoad

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,654 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,364 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.28	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	863
CNEL:	93	200	431	928

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Chinon (B Street) to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: SR-261 NB Off-Ramp to Central Park

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,914 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,303 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	848
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Pueblo Norte to Independence Way (The Groves)/ Parkwood

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,208 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,245 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	387	833
CNEL:	90	193	416	897

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Yale Avenue to Pueblo Norte

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,027 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,230 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.0
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	385	830
CNEL:	89	192	414	893

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Modjeska to Pusan Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,148 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Central Park Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,271 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,002 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.5	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.7	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	772
CNEL:	83	179	386	831

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Parker to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,781 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,879 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.08	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.28	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.5	65.5	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	740
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Alton Parkway to Fairbanks
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,955 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,481 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.3	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	632
CNEL:	68	146	315	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Irvine Center Drive
Job Number: 15937
Road Segment: Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,865 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,361 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.99	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.25	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.21	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.3	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.4	71.5	68.4	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	521	1,122
CNEL:	121	260	559	1,205

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Orange Tree to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,280 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,983 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.1	61.0	69.6	70.2
Medium Trucks:	63.5	62.8	56.4	54.9	63.3	63.6
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.6	70.7	67.6	62.8	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	483	1,041
CNEL:	112	241	519	1,118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: I-405 SB Off-Ramp to Research

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,133 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,971 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.58	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.66	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.61	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.5	61.4	70.0	70.6
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.0	71.1	68.0	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	227	489	1,054
CNEL:	113	244	525	1,132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Irvine Valley College to Orange Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,178	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,892	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	221	476	1,025
CNEL:	110	237	511	1,101

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Fontaine Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,870 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,702 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.3	70.4	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	214	460	991
CNEL:	107	229	494	1,065

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Culver Drive to Deerwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,248 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,650 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.3	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	212	456	982
CNEL:	106	227	490	1,055

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Deerwood to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,804 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,614 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.02	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.5	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	71.2	70.3	67.2	62.4	71.0	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	210	453	976
CNEL:	105	226	486	1,048

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Yale Avenue to Fontaine Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,189 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,646 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.1	62.4	56.0	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.2	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	211	455	981
CNEL:	105	227	489	1,054

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Jeffrey Road to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,078 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,554 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.6	60.5	69.1	69.7
Medium Trucks:	63.0	62.3	55.9	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.1	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	208	448	965
CNEL:	104	223	481	1,036

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Alton Parkway to Spectrum

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,201 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,317 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.8	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	428	921
CNEL:	99	213	459	990

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Spectrum to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,643 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,271 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	197	424	913
CNEL:	98	211	455	981

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Hearthstone to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,654 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,189 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	193	417	897
CNEL:	96	208	448	964

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Charter to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,036 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.82	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.78	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	933

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Jamboree Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,164 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,901 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.22	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.6	68.3	68.9
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	391	843
CNEL:	91	195	420	905

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Pacifica to Entertainment (Enterprise/Fortune)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,691 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,944 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.3	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	395	851
CNEL:	91	197	424	914

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,398 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,920 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	182	393	846
CNEL:	91	196	422	909

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Harvard Avenue to Hearthstone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,081 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,729 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.7	52.6	53.9	62.2	62.3
Vehicle Noise:	70.0	69.0	66.0	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	187	403	869

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Research to Hubble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,315 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,584 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.5	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	362	780
CNEL:	84	181	389	838

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Barranca Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,428 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,510 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.5	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.6	60.8	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	355	765
CNEL:	82	177	382	822

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,410 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,509 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.5	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.6	60.8	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	165	355	765
CNEL:	82	177	381	822

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Discovery to Charter

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,581 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,523 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	768
CNEL:	82	178	383	825

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,602 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,360 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.7	67.4	68.0
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.3	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	734
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Muller to Tesla

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,299 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,252 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	330	712
CNEL:	76	165	355	765

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Sand Canyon Avenue to Odyssey

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,025 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,147 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.28	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	320	689
CNEL:	74	160	344	741

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Tesla to Scientific Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,537 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,107 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.83	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.9	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	316	681
CNEL:	73	158	339	731

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Scientific Way to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,377 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,011 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	306	660
CNEL:	71	153	329	709

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Gateway Boulevard to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,257 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,919 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.42	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.82	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	640
CNEL:	69	148	319	687

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Laguna Canyon Road to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,090 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,905 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.0
Medium Trucks:	60.3	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.4	59.6	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	295	637
CNEL:	68	147	317	684

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Odyssey to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,690 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,872 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.7	66.4	67.0
Medium Trucks:	60.2	59.5	53.1	51.6	60.1	60.3
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	292	629
CNEL:	68	146	314	676

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive (Edinger)
Road Segment: Redhill Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,103 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,226 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	420	904
CNEL:	97	209	451	972

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: I-5 SB Off-Ramp to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,825 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,761 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.1	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	73.3	70.4	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	156	337	725	1,562
CNEL:	168	362	780	1,681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,685 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,739 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.46	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-11.77	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-15.73	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.8	72.7	70.9	64.9	73.5	74.1
Medium Trucks:	67.1	66.5	60.1	58.6	67.0	67.3
Heavy Trucks:	67.2	66.6	57.6	58.8	67.2	67.3
Vehicle Noise:	75.3	74.4	71.5	66.6	75.1	75.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	176	379	817	1,759
CNEL:	189	408	878	1,893

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Walnut Avenue to Michelle Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,362 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,980 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.1	71.8	72.4
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.5	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.6	72.7	69.7	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	305	658	1,418
CNEL:	153	329	708	1,525

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: I-405 NB Off-Ramp to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,725	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	6,742	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.47	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.77	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-15.73	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.1	74.1	72.3	66.3	74.9	75.5
Medium Trucks:	68.5	67.9	61.5	60.0	68.4	68.6
Heavy Trucks:	68.6	68.0	58.9	60.2	68.5	68.7
Vehicle Noise:	76.7	75.8	72.8	68.0	76.5	77.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	272	585	1,261	2,718
CNEL:	292	630	1,357	2,924

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Michelle Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,750 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,764 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.8	69.0	63.0	71.6	72.2
Medium Trucks:	65.2	64.6	58.2	56.7	65.1	65.3
Heavy Trucks:	65.3	64.7	55.6	56.9	65.2	65.4
Vehicle Noise:	73.4	72.5	69.5	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	138	297	639	1,376
CNEL:	148	319	687	1,481

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Main Street to Kelvin Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	70,902 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,849 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.85	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.39	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.35	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.5	73.5	71.7	65.6	74.3	74.9
Medium Trucks:	67.9	67.2	60.9	59.3	67.8	68.0
Heavy Trucks:	67.9	67.4	58.3	59.6	67.9	68.0
Vehicle Noise:	76.1	75.2	72.2	67.3	75.9	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	247	533	1,147	2,472
CNEL:	266	573	1,234	2,659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	87,488	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	7,218	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	130	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	110.0	feet
Centerline Dist. to Observer:	110.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	88.792
Medium Trucks:	88.747
Heavy Trucks:	88.792

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.76	-3.84	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.48	-3.84	-1.20	*-4.96*	0.000	0.000
Heavy Trucks:	86.40	-15.43	-3.84	-1.20	*-5.14*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.8
Medium Trucks:	65.9	65.2	58.9	57.3	65.8	66.0
Heavy Trucks:	65.9	65.3	56.3	57.5	65.9	66.0
Vehicle Noise:	74.1	73.1	70.2	65.3	73.9	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	430	925	1,994
CNEL:	214	462	996	2,145

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Kelvin Avenue to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,797 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,428 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.52	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.71	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.67	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.2	73.1	71.4	65.3	73.9	74.5
Medium Trucks:	67.6	66.9	60.6	59.0	67.5	67.7
Heavy Trucks:	67.6	67.0	58.0	59.2	67.6	67.7
Vehicle Noise:	75.8	74.8	71.9	67.0	75.6	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	235	507	1,092	2,352
CNEL:	253	545	1,174	2,530

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: McGaw Avenue to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,261 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,384 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.49	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.75	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.71	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.2	73.1	71.3	65.3	73.9	74.5
Medium Trucks:	67.6	66.9	60.5	59.0	67.4	67.7
Heavy Trucks:	67.6	67.0	58.0	59.2	67.6	67.7
Vehicle Noise:	75.7	74.8	71.9	67.0	75.5	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	234	504	1,086	2,339
CNEL:	252	542	1,168	2,516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Birch Street to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,881 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,033 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.2	70.9	71.5
Medium Trucks:	64.5	63.8	57.5	55.9	64.4	64.6
Heavy Trucks:	64.5	64.0	54.9	56.2	64.5	64.6
Vehicle Noise:	72.7	71.8	68.8	63.9	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	265	572	1,232
CNEL:	132	285	615	1,325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,705 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,513 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.72	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.52	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.47	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.1	71.8	72.4
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.9	55.8	57.1	65.4	65.5
Vehicle Noise:	73.6	72.7	69.7	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	135	290	625	1,347
CNEL:	145	312	672	1,449

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Alton Parkway to Beckman

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,551 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,913 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.09	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.15	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.10	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.8	72.7	70.9	64.9	73.5	74.1
Medium Trucks:	67.2	66.5	60.1	58.6	67.0	67.3
Heavy Trucks:	67.2	66.6	57.6	58.8	67.2	67.3
Vehicle Noise:	75.3	74.4	71.5	66.6	75.1	75.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	220	474	1,021	2,201
CNEL:	237	510	1,099	2,367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Fairchild Road to Birch Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,091 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,133 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.34	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.90	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.85	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.7	71.4	72.0
Medium Trucks:	65.0	64.4	58.0	56.4	64.9	65.1
Heavy Trucks:	65.1	64.5	55.4	56.7	65.0	65.2
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	127	274	589	1,270
CNEL:	137	294	634	1,366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Beckman to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,555 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,583 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.79	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.45	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.5	72.4	70.6	64.6	73.2	73.8
Medium Trucks:	66.9	66.2	59.8	58.3	66.7	67.0
Heavy Trucks:	66.9	66.3	57.3	58.5	66.9	67.0
Vehicle Noise:	75.0	74.1	71.2	66.3	74.8	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	210	453	975	2,101
CNEL:	226	487	1,049	2,260

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: I-5 NB Off-Ramp to El Camino Real
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,710	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,349	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	66.0	59.6	58.0	66.5	66.7
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	942	2,029
CNEL:	218	470	1,013	2,182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Campus Drive to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,225 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,814 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.99	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.25	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.20	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.2	68.5	62.4	71.0	71.6
Medium Trucks:	64.7	64.0	57.6	56.1	64.6	64.8
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.9	71.9	69.0	64.1	72.7	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	120	259	559	1,204
CNEL:	129	279	601	1,295

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: El Camino Real to West Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,214 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.42	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.81	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.77	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	66.5	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.7	73.7	70.8	65.9	74.5	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	428	922	1,987
CNEL:	214	460	992	2,137

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: West Drive to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,212	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,225	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.44	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.80	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.76	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.5
Medium Trucks:	66.5	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	66.5	65.9	56.9	58.2	66.5	66.6
Vehicle Noise:	74.7	73.8	70.8	65.9	74.5	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	429	924	1,990
CNEL:	214	461	994	2,141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Bryan Avenue to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,448 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,914 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.10	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.13	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.09	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	69.9	63.9	72.5	73.1
Medium Trucks:	66.2	65.5	59.1	57.6	66.0	66.3
Heavy Trucks:	66.2	65.6	56.6	57.8	66.2	66.3
Vehicle Noise:	74.4	73.4	70.5	65.6	74.2	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	189	407	878	1,891
CNEL:	203	438	944	2,035

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Koll Center to Fairchild Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,485 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.60	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.64	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.59	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.1	62.0	70.6	71.2
Medium Trucks:	64.3	63.6	57.2	55.7	64.2	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.5	71.5	68.6	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	526	1,133
CNEL:	122	263	566	1,219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: MacArthur Boulevard to Koll Center

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,473	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,422	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.52	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.72	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.67	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.2	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.2	63.6	54.6	55.9	64.2	64.3
Vehicle Noise:	72.4	71.5	68.5	63.6	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	241	520	1,120
CNEL:	120	259	559	1,204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Irvine Boulevard to Portola Pakway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,128 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,403 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.4	69.5	66.6	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	872
CNEL:	94	202	436	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Warner Avenue to Edinger Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	87,248 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,198 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.75	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-11.49	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-15.44	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	77.3	76.2	74.5	68.4	77.0	77.6
Medium Trucks:	70.7	70.0	63.7	62.1	70.6	70.8
Heavy Trucks:	70.7	70.1	61.1	62.3	70.7	70.8
Vehicle Noise:	78.9	77.9	75.0	70.1	78.7	79.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	242	522	1,125	2,423
CNEL:	261	562	1,210	2,607

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	72,206 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,957 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.93	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.31	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.27	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.5	75.4	73.6	67.6	76.2	76.8
Medium Trucks:	69.9	69.2	62.8	61.3	69.8	70.0
Heavy Trucks:	69.9	69.3	60.3	61.5	69.9	70.0
Vehicle Noise:	78.1	77.1	74.2	69.3	77.9	78.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	214	460	991	2,136
CNEL:	230	495	1,067	2,298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Edinger Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,688 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,502 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.58	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.66	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.61	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.1	75.1	73.3	67.2	75.9	76.5
Medium Trucks:	69.5	68.9	62.5	60.9	69.4	69.6
Heavy Trucks:	69.5	69.0	59.9	61.2	69.5	69.7
Vehicle Noise:	77.7	76.8	73.8	69.0	77.5	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	436	940	2,026
CNEL:	218	469	1,012	2,179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Walnut Avenue to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,176 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,635 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	63.0	62.4	56.0	54.4	62.9	63.1
Heavy Trucks:	63.9	63.3	54.2	55.5	63.9	64.0
Vehicle Noise:	71.1	70.2	67.1	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	208	449	967
CNEL:	104	223	481	1,037

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: I-5 NB Off-Ramp to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,037 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,201 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.21	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.03	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-15.98	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.9	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.0	71.1	68.0	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	228	491	1,059
CNEL:	114	245	527	1,136

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Poplar (Meadows) to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,683 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,181 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.4	62.8	53.8	55.1	63.4	63.5
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	419	903
CNEL:	97	209	449	968

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,443 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,079 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.6	69.6	66.5	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	191	412	888
CNEL:	95	205	442	952

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Irvine Center Drive to Poplar (Meadows)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,484 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,000 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	70.5	69.6	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	876
CNEL:	94	203	436	940

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: I-405 NB Off-Ramp to Quail Creek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,021 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,044 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	883
CNEL:	95	204	439	947

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Barranca Parkway to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,228 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,896 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.6	68.3	68.9
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.4	69.4	66.3	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	400	861
CNEL:	92	199	429	924

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Quail Creek to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,578	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,925	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	70.4	69.5	66.3	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	186	402	865
CNEL:	93	200	431	928

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Irvine Valley College to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,665 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,685 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.1
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.1	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	385	830
CNEL:	89	192	413	890

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Trabuco Road to Hideaway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,113 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,144 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	346	746
CNEL:	80	172	372	801

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Hideaway to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,065 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,140 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	346	746
CNEL:	80	172	371	800

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Roosevelt to Grove

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,531 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,344 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.29	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.95	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.90	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	182	393	846

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Grove to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,167 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,231 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.14	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.10	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.05	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.0	69.0	65.9	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	771
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Bryan Avenue to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,277 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,415 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.0	60.5	51.4	52.7	61.0	61.1
Vehicle Noise:	68.3	67.4	64.2	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	626
CNEL:	67	145	312	672

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Encore to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,766 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,218 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.2	56.6	50.2	48.6	57.1	57.3
Heavy Trucks:	58.1	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	65.3	64.4	61.2	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	397
CNEL:	43	92	197	425

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Irvine Boulevard to Encore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,204 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,172 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.2	60.5	54.4	63.0	63.6
Medium Trucks:	57.1	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.1	64.2	61.1	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	83	179	386
CNEL:	41	89	192	415

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeronimo Road
Road Segment: Goodyear to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,959 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	657 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	56.2	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	57.0	56.4	47.4	48.7	57.0	57.1
Vehicle Noise:	64.3	63.4	60.2	55.5	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	252
CNEL:	27	58	125	270

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeronimo Road
Road Segment: Alton Parkway to Goodyear

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,468 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	616 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	56.8	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.0	63.1	59.9	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Old Laguna Canyon Road to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,875 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,445 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	64.9	64.3	57.9	56.3	64.8	65.0
Heavy Trucks:	65.0	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	73.1	72.2	69.2	64.4	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	283	610	1,314
CNEL:	141	305	656	1,414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Laguna Canyon Freeway to Quail Hill Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,794 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,386 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	269	579
CNEL:	62	134	289	623

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Discovery to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,867 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,144 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.9	67.9	65.0	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	237	510
CNEL:	55	118	255	548

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: I-405 Overcrossing to Pasteur

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,576 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	707 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.91	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.15	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.11	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.6	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	341
CNEL:	37	79	170	366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Irvine Center Drive to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,516 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	785 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.1	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	67.2	66.3	63.4	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	397
CNEL:	43	92	198	427

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Quail Hill Parkway to I-405 Overcrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,576 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	707 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.91	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.15	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.11	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.6	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	341
CNEL:	37	79	170	366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Pasteur to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,455 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	698 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.5	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	58.6	58.0	48.9	50.2	58.6	58.7
Vehicle Noise:	66.7	65.8	62.8	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	367
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Waterworks to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,346 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	606 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.0
Heavy Trucks:	58.0	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	66.1	65.2	62.2	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,917 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	571 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	57.7	57.0	50.6	49.1	57.6	57.8
Heavy Trucks:	57.7	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	65.9	64.9	62.0	57.1	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	321
CNEL:	34	74	160	345

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,120 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	505 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-23.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	57.1	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	57.2	56.6	47.5	48.8	57.1	57.3
Vehicle Noise:	65.3	64.4	61.4	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	137	296
CNEL:	32	68	148	318

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Lake Forest Drive
Road Segment: Hidden Canyon to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,173 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,582 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.3	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	250	539
CNEL:	58	125	269	579

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Lake Forest Drive
Road Segment: Bake Parkway to Hidden Canyon (Romano)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,999 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,567 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.2	60.4	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	58	124	267	576

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Lake Forest Drive
Road Segment: Tesla to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,318 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,181 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	66.3	65.4	62.4	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	463
CNEL:	50	107	231	497

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Lake Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,144 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	507 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.35	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	70.80	-19.59	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	77.97	-23.54	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.1	55.0	53.3	47.2	55.8	56.4
Medium Trucks:	50.9	50.3	43.9	42.4	50.8	51.0
Heavy Trucks:	54.1	53.6	44.5	45.8	54.1	54.2
Vehicle Noise:	59.0	58.1	54.2	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Lynx
Road Segment: Irvine Boulevard to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,246 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	103 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-9.28	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-26.52	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-30.47	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.1	49.0	47.3	41.2	49.8	50.4
Medium Trucks:	44.9	44.3	37.9	36.4	44.8	45.0
Heavy Trucks:	48.1	47.5	38.5	39.8	48.1	48.2
Vehicle Noise:	53.0	52.1	48.2	44.3	52.8	53.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	12	27
CNEL:	3	6	13	28

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: I-405 SB Off-Ramp to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,683 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,089 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.87	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.37	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.33	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.0	73.9	72.1	66.1	74.7	75.3
Medium Trucks:	68.2	67.5	61.2	59.6	68.1	68.3
Heavy Trucks:	67.9	67.3	58.3	59.5	67.9	68.0
Vehicle Noise:	76.5	75.5	72.6	67.7	76.3	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	261	562	1,212	2,610
CNEL:	281	606	1,305	2,812

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Main Street to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,713 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,009 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.80	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.44	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.9	73.8	72.1	66.0	74.6	75.3
Medium Trucks:	68.1	67.5	61.1	59.6	68.0	68.3
Heavy Trucks:	67.8	67.2	58.2	59.4	67.8	67.9
Vehicle Noise:	76.4	75.5	72.6	67.6	76.2	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	258	556	1,199	2,583
CNEL:	278	599	1,291	2,782

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: I-405 NB Off-Ramp and I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,791 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,933 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.8	73.8	72.0	66.0	74.6	75.2
Medium Trucks:	68.1	67.4	61.0	59.5	68.0	68.2
Heavy Trucks:	67.8	67.2	58.1	59.4	67.7	67.9
Vehicle Noise:	76.3	75.4	72.5	67.6	76.1	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	256	551	1,187	2,557
CNEL:	275	593	1,278	2,754

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Jamboree Road to Fairchild Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,283 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.6
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	357	768
CNEL:	82	178	382	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Fairchild Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,251 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.02	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	69.6	68.7	65.5	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	763
CNEL:	82	176	380	819

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Fitch to Red Hill Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,553 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,428 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.40	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.84	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.79	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.5	55.1	53.5	62.0	62.2
Heavy Trucks:	63.0	62.4	53.3	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	173	372	802
CNEL:	86	185	399	860

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Michelson Drive to Douglas

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,212	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,730	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.77	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.47	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.43	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.2	69.9	70.5
Medium Trucks:	63.9	63.2	56.8	55.3	63.8	64.0
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.0	71.0	67.9	63.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	282	608	1,310
CNEL:	141	303	652	1,405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Douglas to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,713	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.75	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.49	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.45	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	71.9	71.0	67.9	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	281	606	1,306
CNEL:	140	302	650	1,401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Skypark to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,180 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,737 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.42	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.82	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.77	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	320	690
CNEL:	74	160	344	740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Redhill Avenue to Skypark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,316 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	609
CNEL:	65	141	303	653

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Birch Street to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,177 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,747 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	66.9	66.0	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	504
CNEL:	54	117	251	541

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Campus Drive to Birch Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,972 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.00	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-16.24	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-20.20	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.9	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.2	68.3	65.1	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	398	857
CNEL:	92	198	427	919

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Gillette Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,818 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,697 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.73	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.51	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.47	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	391	843
CNEL:	90	195	420	905

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: MacArthur Boulevard to Mercantile

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,493 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,258 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.18	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.06	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.02	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.0	69.1	65.9	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	360	775
CNEL:	83	179	386	832

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Executive Park to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,337 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,338 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	60.1	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.1	67.2	64.1	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	284	613
CNEL:	66	142	305	657

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Von Karman Avenue to Cartwright

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,170 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,324 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.4	53.0	51.5	59.9	60.1
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.1	67.2	64.1	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	610
CNEL:	65	141	304	654

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: McDurmott to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,342 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,173 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.42	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.82	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.7	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	583
CNEL:	63	135	290	626

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Red Hill Avenue to Executive Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,776 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,127 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	575
CNEL:	62	133	286	617

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Jamboree Road to Union

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,761 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,043 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	560
CNEL:	60	129	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,599 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,204 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Siglo to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,041 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,983 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.3	58.7	52.3	50.8	59.2	59.5
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.4	66.5	63.4	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	273	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Veneto to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,207 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,915 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.37	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.4	62.6	56.5	65.2	65.8
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	67.3	66.4	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	536
CNEL:	58	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Paseo Westpark to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,068 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	996 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	58.8	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	66.1	65.2	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	154	332
CNEL:	36	77	166	357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Harvard Avenue to San Mateo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,928 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	984 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	330
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Marine Way
Job Number: 15937
Road Segment: Sand Canyon Avenue to Ridge Valley (O Street)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,541 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,345 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.80	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	77.72	-13.43	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	82.99	-17.39	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	72.0	71.1	67.9	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	664
CNEL:	71	153	330	711

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: Alton Parkway to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,983 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,639 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	69.0	68.2	64.9	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	113	244	525
CNEL:	56	121	261	562

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: Lynx to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,277 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,663 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	62.4	61.8	52.7	54.0	62.4	62.5
Vehicle Noise:	69.1	68.2	64.9	60.4	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	528
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: County Access to Treble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,072 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,151 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	60.1	59.5	53.1	51.5	60.0	60.2
Heavy Trucks:	61.4	60.9	51.8	53.1	61.4	61.5
Vehicle Noise:	68.2	67.3	64.0	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	458
CNEL:	49	106	228	490

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: Ridge Valley (O Street) to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,784 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,045 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	67.9	67.0	63.8	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	205	443
CNEL:	47	102	220	474

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: Skyhawk to County Access

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,473 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,607 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	66.9	66.0	62.7	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	187	404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,478 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	177	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: Treble to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,505 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,362 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.3	55.3	63.9	64.5
Medium Trucks:	58.1	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.5	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	66.2	65.3	62.0	57.5	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	157	338
CNEL:	36	78	168	361

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: McGaw Avenue
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,966 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,152 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	59.0	52.9	61.5	62.2
Medium Trucks:	56.0	55.4	49.0	47.4	55.9	56.1
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	64.0	63.2	59.7	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	260

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: McGaw Avenue
Road Segment: Red Hill Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,754 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,135 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	56.0	55.3	48.9	47.4	55.8	56.1
Heavy Trucks:	57.8	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	64.0	63.1	59.7	55.3	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	55	119	257

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: McGaw Avenue
Road Segment: Daimler to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,179 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	757 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.1	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	62.2	61.3	57.9	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	85	184
CNEL:	20	42	91	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: McGaw Avenue
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,528 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	374 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-22.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-26.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.9	55.9	54.1	48.0	56.7	57.3
Medium Trucks:	51.1	50.5	44.1	42.6	51.0	51.3
Heavy Trucks:	53.0	52.4	43.4	44.6	53.0	53.1
Vehicle Noise:	59.1	58.3	54.8	50.4	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	25	53	115
CNEL:	12	26	57	123

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Meadowood
Road Segment: Culver Drive to Canyonwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	901 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.6	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	51.5	50.8	44.4	42.9	51.3	51.6
Heavy Trucks:	54.7	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	59.5	58.7	54.8	50.9	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Meridian
Road Segment: Spectrum to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,685 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	222 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-6.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-23.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-27.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.8	51.7	49.9	43.9	52.5	53.1
Medium Trucks:	47.3	46.6	40.2	38.7	47.1	47.4
Heavy Trucks:	49.7	49.2	40.1	41.4	49.7	49.9
Vehicle Noise:	55.3	54.4	50.8	46.6	55.1	55.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	29	64
CNEL:	7	15	31	68

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Meridian
Road Segment: Alton Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,205 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.9	50.9	49.1	43.0	51.7	52.3
Medium Trucks:	46.4	45.7	39.4	37.8	46.3	46.5
Heavy Trucks:	48.9	48.3	39.3	40.5	48.9	49.0
Vehicle Noise:	54.4	53.6	49.9	45.7	54.2	54.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Merit
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,731 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	308 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.52	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-21.75	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-25.71	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.9	53.8	52.0	46.0	54.6	55.2
Medium Trucks:	49.7	49.0	42.7	41.1	49.6	49.8
Heavy Trucks:	52.9	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	57.7	56.9	53.0	49.1	57.6	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	27	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Riparian to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,198 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,079 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	60.0	59.3	52.9	51.4	59.9	60.1
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.0	67.1	63.8	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	208	448
CNEL:	48	103	222	479

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Almond Tree Lane to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,921 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	818 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.31	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.55	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.50	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.8	60.1	60.2
Vehicle Noise:	66.8	66.0	62.7	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	225
CNEL:	24	52	112	240

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Von Karman Avenue to Obsidian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,736 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,958 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	67.8	66.9	63.6	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	430
CNEL:	46	99	214	461

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Parkside to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,429 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,850 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	59.5	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	67.5	66.6	63.3	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	414
CNEL:	44	96	206	443

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Gillman to Seton/Sandburg Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,208 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	760 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.63	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.87	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.83	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.3	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	99	214
CNEL:	23	49	106	229

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Carlson to Prince

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,093	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,235	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.05	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	77.72	-15.18	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	82.99	-19.14	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.0	66.1	62.9	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	463
CNEL:	50	107	230	495

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: MacArthur Boulevard to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,337 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,678 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.1	66.2	62.9	58.4	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	415

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Harvard Avenue to Parkside
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,003 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,485 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	66.6	65.7	62.4	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	358
CNEL:	38	83	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Bixby to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,647 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,456 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.5
Heavy Trucks:	59.7	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	66.5	65.6	62.3	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	353
CNEL:	38	81	175	378

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Jamboree Road to Carlson

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,364 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,093 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.77	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.47	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.43	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.3	68.4	65.2	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	527
CNEL:	56	122	262	564

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Teller to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,112 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.81	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.43	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.39	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.4	68.5	65.2	60.7	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	530
CNEL:	57	122	264	568

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Jordan East to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,782 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	560 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.96	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-21.20	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-25.16	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.7	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	60.0	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	66.7	65.8	62.5	58.0	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	81	175
CNEL:	19	40	87	188

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Culver Drive to Angell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,789 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	725 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.84	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.07	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	82.99	-24.03	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	57.9	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	59.2	58.6	49.6	50.9	59.2	59.3
Vehicle Noise:	65.9	65.1	61.8	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	209
CNEL:	22	48	104	223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Modjeska (A Street)
Road Segment: Portola Springs to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,817 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,140 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	27.659
Medium Trucks:	27.514
Heavy Trucks:	27.659

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.38	3.75	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	79.45	-18.62	3.79	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	84.25	-22.58	3.75	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.7	69.4	70.0
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	64.2	63.6	54.6	55.9	64.2	64.3
Vehicle Noise:	71.5	70.6	67.4	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	169	365
CNEL:	39	84	182	392

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Modjeska (A Street)
Road Segment: South of Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,834 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	151 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.15	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-27.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-31.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.9	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	52.7	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	53.5	53.0	43.9	45.2	53.5	53.6
Vehicle Noise:	60.8	59.9	56.7	52.0	60.6	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	88
CNEL:	9	20	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Muirlands Boulevard
Road Segment: Bake Parkway to City Limits
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,807 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,222 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	67.0	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	381
CNEL:	41	88	190	409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Muirlands Boulevard
Road Segment: Alton Parkway to Sterling

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Muirlands Boulevard
Road Segment: Wrigley to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Newport Coast Drive
Road Segment: SR-73 NB Off-Ramp to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,428 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.4	65.5	62.2	57.7	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	348
CNEL:	37	80	173	373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Newport Coast Drive
Road Segment: Turtle Crest to Bonita Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,122 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,000 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	64.8	63.9	60.7	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	128	275
CNEL:	29	63	137	294

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Nightmist
Road Segment: Sand Canyon Avenue to Tulip (Road C)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,501 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	949 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.1	58.0	56.3	50.2	58.8	59.4
Medium Trucks:	53.6	52.9	46.6	45.0	53.5	53.7
Heavy Trucks:	56.1	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	61.6	60.7	57.1	52.9	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	78	167
CNEL:	18	38	83	178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Northwood
Road Segment: Yale Avenue to Savannah

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,741 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	391 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.94	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-22.17	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.13	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	54.2	53.6	47.2	45.6	54.1	54.3
Heavy Trucks:	56.1	55.5	46.4	47.7	56.1	56.2
Vehicle Noise:	62.2	61.3	57.9	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	111
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Northwood
Road Segment: Goldrush to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,801 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	314 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.90	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.13	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.09	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	53.3	52.6	46.2	44.7	53.2	53.4
Heavy Trucks:	55.1	54.5	45.5	46.7	55.1	55.2
Vehicle Noise:	61.3	60.4	56.9	52.6	61.1	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	44	95
CNEL:	10	22	47	102

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Oak Canyon Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,109 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	999 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.96	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.19	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.15	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.7	61.2	52.1	53.4	61.7	61.8
Vehicle Noise:	69.0	68.1	64.9	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	311
CNEL:	33	72	155	334

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Pacifica
Road Segment: Gateway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,565 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,037 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.0	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	58.3	57.7	48.6	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.8	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	281
CNEL:	30	65	140	301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Pacifica
Road Segment: Alton Parkway to Gateway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	783 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.50	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.1	48.7	47.2	55.6	55.9
Heavy Trucks:	57.1	56.5	47.4	48.7	57.0	57.2
Vehicle Noise:	63.8	62.9	59.6	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	234
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Pacifica
Job Number: 15937
Road Segment: Irvine Center Drive to Fortune Drive (Spectrum Center Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,083 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	584 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.7	51.6	60.2	60.8
Medium Trucks:	54.5	53.8	47.4	45.9	54.3	54.6
Heavy Trucks:	55.8	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	62.5	61.6	58.3	53.8	62.3	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	192
CNEL:	21	44	95	206

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Pacifica
Road Segment: Meridian to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,479 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	370 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-23.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	57.4	55.7	49.6	58.2	58.8
Medium Trucks:	52.5	51.8	45.4	43.9	52.4	52.6
Heavy Trucks:	53.8	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	60.5	59.6	56.3	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	66	142
CNEL:	15	33	70	152

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Park Place
Road Segment: Christamon South to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,750 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	309 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.2	53.2	51.4	45.3	54.0	54.6
Medium Trucks:	48.7	48.0	41.7	40.1	48.6	48.8
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	56.7	55.9	52.2	48.0	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Portola Parkway
Job Number: 15937
Road Segment: Bee Canyon Access Road to Sand Canyon Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,775 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,044 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.7	53.6	54.9	63.2	63.3
Vehicle Noise:	71.4	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	348	751
CNEL:	81	174	375	808

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Jeffrey Road to Bee Canyon Access Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,694 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,037 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	71.4	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	348	749
CNEL:	81	174	374	806

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Arrowhead to Ridge Valley Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,621 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,949 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	70.0
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	71.2	70.3	67.3	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	727
CNEL:	78	169	363	782

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Sand Canyon Avenue to Arrowhead

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,666 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,787 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.6	62.0	55.6	54.0	62.5	62.7
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	686
CNEL:	74	159	343	739

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Portola Springs to SR-241 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,347 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,431 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.7	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.8	68.9	66.0	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	592
CNEL:	64	137	296	637

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Gatepark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,181 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,407 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.5	69.5	66.6	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	873
CNEL:	94	202	436	939

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: ETC-6 (SR-261) NB Off-Ramp to Gatepark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,743 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,371 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.2
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	70.4	69.5	66.5	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	401	864
CNEL:	93	200	432	930

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,901 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,302 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	847
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Jamboree Road to Bellevue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,621 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,279 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.4	61.9	62.1
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	391	842
CNEL:	91	195	420	906

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Bellevue to ETC-6 (SR-261) SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,354 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,257 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	388	836
CNEL:	90	194	418	900

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Yale Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,999 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,145 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.75	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	375	809
CNEL:	87	187	404	870

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Culver Drive to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,874 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,887 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.3
Vehicle Noise:	69.4	68.5	65.5	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	742
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Silverado to Portola Springs

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,016 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.1	51.6	60.1	60.3
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.4	67.4	64.5	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	219	471
CNEL:	51	109	235	507

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Pusan
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,449 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	202 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.34	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.58	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.54	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	52.0	50.2	44.1	52.8	53.4
Medium Trucks:	47.9	47.2	40.8	39.3	47.7	48.0
Heavy Trucks:	51.1	50.5	41.4	42.7	51.1	51.2
Vehicle Noise:	55.9	55.1	51.2	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Quail Hill Parkway
Road Segment: Shady Canyon Drive to Passage
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,541 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,282 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.5	65.1	65.7
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.0
Vehicle Noise:	67.2	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	393
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Quail Hill Parkway
Road Segment: East Knollcrest to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	817 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	291
CNEL:	31	67	145	312

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Quassar Drive (Spectrum)
Job Number: 15937
Road Segment: Irvine Center Drive to Spectrum Center Drive (Fortune)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,994 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	164 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.24	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.48	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	77.97	-28.43	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.8	50.7	48.9	42.9	51.5	52.1
Medium Trucks:	46.6	45.9	39.6	38.0	46.5	46.7
Heavy Trucks:	49.8	49.2	40.2	41.4	49.8	49.9
Vehicle Noise:	54.6	53.8	49.9	46.0	54.5	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	8	18	39

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: MacArthur Boulevard to McGaw Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,131 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,723 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	70.0
Medium Trucks:	63.2	62.5	56.1	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	214	462	995
CNEL:	107	230	496	1,069

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: I-405 Over Crossing to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,478 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,854 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	600
CNEL:	64	139	299	644

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: Alton Parkway to Deere Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,238 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,660 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.84	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	171	369	795
CNEL:	85	184	397	854

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: McGaw Avenue to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,517 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,600 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	783
CNEL:	84	181	391	842

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: Deere Avenue to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,497 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,516 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	766
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: Skypark East to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,999 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,815 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.18	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.06	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.01	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	322	693
CNEL:	74	160	345	744

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: Main Street to Skypark East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,933 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,562 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.47	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.71	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.67	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.4	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.8	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.5	69.6	66.5	61.7	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	313	673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Research Drive
Road Segment: Hubble to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,175 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,077 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	69.3	68.4	65.2	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	543
CNEL:	58	125	270	582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Research Drive
Road Segment: Scientific to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,919 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,396 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.50	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	193	416
CNEL:	45	96	207	447

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Research Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,092 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.2	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Research Drive
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,299 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	850 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	299
CNEL:	32	69	149	321

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Irvine Boulevard to Trabuco Road (Great Park Boulevard)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,983 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,236 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	58.9	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.0	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	412

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Ridge Valley (O Street)
Road Segment: Portola Parkway to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,342 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,018 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.1	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.0
Vehicle Noise:	66.2	65.3	62.1	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	157	337
CNEL:	36	78	168	362

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Trabuco Road (Great Park Boulevard) to Marine Way

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	918 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Ridge Valley (O Street)
Road Segment: Ranchland to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	935 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	77 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-13.08	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-30.32	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-34.27	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	55.0	53.2	47.1	55.8	56.4
Medium Trucks:	49.8	49.1	42.7	41.2	49.7	49.9
Heavy Trucks:	50.6	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	57.9	56.9	53.8	49.1	57.7	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	60

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Ridgeline Drive
Road Segment: Concordia East to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,070 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,326 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.37	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-16.87	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-20.83	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.5	59.8	53.4	51.9	60.4	60.6
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	68.5	67.6	64.2	59.8	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	143	308
CNEL:	33	71	153	329

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Ridgeline Drive
Road Segment: Turtle Rock Drive to San Simeon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,923 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,231 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.04	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.19	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.15	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	68.1	67.3	63.8	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	67	145	313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Rockfield Avenue
Road Segment: Whatney to McLaren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,541 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,365 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.7	65.4	66.0
Medium Trucks:	59.4	58.7	52.3	50.8	59.3	59.5
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.4	66.5	63.4	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	190	410
CNEL:	44	95	204	440

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Rockfield Avenue
Road Segment: Bake Parkway to Whatney

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,372 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	608 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.0	59.3	53.2	61.8	62.4
Medium Trucks:	55.9	55.2	48.8	47.3	55.7	56.0
Heavy Trucks:	56.7	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	63.9	63.0	59.9	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	111	239
CNEL:	26	55	119	257

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Rockfield Avenue
Road Segment: Thomas to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,692 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	59.9	58.2	52.1	60.7	61.3
Medium Trucks:	54.7	54.1	47.7	46.2	54.6	54.9
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.8	61.9	58.8	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	93	201
CNEL:	22	47	100	216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Roosevelt
Road Segment: Jeffrey Road to Vision

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,206 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,420 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.3	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.6	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	66.4	65.5	62.2	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	161	347
CNEL:	37	80	173	372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Roosevelt
Road Segment: Yale Avenue to Van Buren
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,058 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	747 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.70	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-19.94	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-23.90	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.9	59.3	52.9	51.3	59.8	60.0
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	67.9	67.0	63.8	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	99	213
CNEL:	23	49	106	228

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Roosevelt
Road Segment: Vision to Bay Tree
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,387 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,352 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.1	61.3	55.3	63.9	64.5
Medium Trucks:	58.1	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	59.4	58.8	49.8	51.1	59.4	59.5
Vehicle Noise:	66.1	65.2	62.0	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	336
CNEL:	36	78	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Roosevelt
Road Segment: Nimitz to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,608 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,205 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.3	49.3	50.6	58.9	59.0
Vehicle Noise:	65.6	64.7	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	311
CNEL:	33	72	155	333

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Roosevelt
Road Segment: Tulip (Road C) to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,053 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,159 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.4	56.8	50.4	48.9	57.3	57.6
Heavy Trucks:	58.8	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	65.5	64.6	61.3	56.8	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	32	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Royal Oak
Road Segment: Alton Parkway to Eaglecreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	398 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.86	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	75.75	-22.09	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	81.57	-26.05	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	63.8	62.9	59.5	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Oak Canyon Drive to Burt Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,113 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,217 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.84	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.1	63.5	54.5	55.8	64.1	64.2
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	502	1,081
CNEL:	116	250	539	1,162

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Irvine Center Drive to Oak Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,013 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,126 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.7	64.0	64.1
Vehicle Noise:	71.7	70.8	67.8	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	495	1,066
CNEL:	114	247	531	1,145

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-405 NB Off-Ramp to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,922 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,789 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.38	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.86	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.82	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.2	65.5	59.2	57.6	66.1	66.3
Heavy Trucks:	66.6	66.0	57.0	58.2	66.6	66.7
Vehicle Noise:	74.3	73.4	70.4	65.6	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	525	1,131
CNEL:	122	262	564	1,216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Burt Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,622 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,424 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.05	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.19	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.14	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.3	63.7	57.3	55.8	64.2	64.4
Heavy Trucks:	64.7	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.5	71.5	68.5	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	526	1,132
CNEL:	122	262	565	1,217

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Marine to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,433 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,151 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.71	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.53	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.48	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	70.0	63.9	72.5	73.1
Medium Trucks:	66.4	65.7	59.3	57.8	66.3	66.5
Heavy Trucks:	66.8	66.2	57.2	58.4	66.8	66.9
Vehicle Noise:	74.5	73.6	70.5	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	194	417	898	1,935
CNEL:	208	448	965	2,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Trabuco Road to Towngate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,024 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,467 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.9	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.0	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	204	440	949
CNEL:	102	220	473	1,020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,582 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,183 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	193	416	896
CNEL:	96	207	447	963

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-5 SB Off-Ramp to Marine

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,961 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,287 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.91	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.33	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.28	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.6	64.9	58.5	57.0	65.5	65.7
Heavy Trucks:	66.0	65.4	56.4	57.6	66.0	66.1
Vehicle Noise:	73.7	72.8	69.7	65.0	73.5	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	171	369	795	1,712
CNEL:	184	396	854	1,840

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Hospital to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,289 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,994 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.7
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	860
CNEL:	92	199	429	925

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Nightmist to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,581 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,843 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.44	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.80	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.76	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.6	71.3	71.9
Medium Trucks:	65.1	64.4	58.1	56.5	65.0	65.2
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	159	343	739	1,592
CNEL:	171	369	794	1,710

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-405 SB Off-Ramp to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,889 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,961 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.31	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.93	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.89	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.2
Heavy Trucks:	65.5	65.0	55.9	57.2	65.5	65.7
Vehicle Noise:	73.3	72.3	69.3	64.5	73.1	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	446	960
CNEL:	103	222	479	1,031

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-5 NB Off-Ramp to Nightmist

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,225	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,061	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.68	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.56	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.52	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.3	64.7	58.3	56.8	65.2	65.5
Heavy Trucks:	65.8	65.2	56.1	57.4	65.7	65.9
Vehicle Noise:	73.5	72.5	69.5	64.7	73.3	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	165	356	767	1,652
CNEL:	177	382	824	1,775

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Towngate to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,746 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,032 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	932

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Waterworks to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,598 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,772 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	817
CNEL:	88	189	408	878

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Irvine Boulevard to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,306 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,923 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	614
CNEL:	66	142	306	660

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Roosevelt to Trabuco Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	153	331	712	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Alton Parkway to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,129 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,733 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.96	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.28	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.24	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	821
CNEL:	88	190	410	882

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon/Shady Canyon
Road Segment: Quail Hill Parkway to I-405 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,970	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,978	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.55	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.69	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.64	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.2
Medium Trucks:	63.4	62.7	56.3	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	340	734
CNEL:	79	170	366	788

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Scientific Way
Road Segment: Irvine Center Drive to Wald

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,626 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	134 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-9.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-26.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-30.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.5	51.4	49.6	43.6	52.2	52.8
Medium Trucks:	46.7	46.0	39.7	38.1	46.6	46.8
Heavy Trucks:	48.5	48.0	38.9	40.2	48.5	48.7
Vehicle Noise:	54.7	53.8	50.4	46.0	54.5	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	27	58
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Shady Canyon Drive
Road Segment: Culver Drive/Bonita Canyon Drive to Cloverfield

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,242 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	762 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.59	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-20.82	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-24.78	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.2	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	72	154	333

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Shady Canyon Drive
Road Segment: Bommer Canyon Road to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,888 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	651 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.27	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.51	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.47	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	67.3	66.4	63.4	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	150	322
CNEL:	35	75	161	346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Skyhawk
Road Segment: Great Park Boulevard to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	874 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.5	55.4	53.7	47.6	56.2	56.9
Medium Trucks:	51.3	50.7	44.3	42.8	51.2	51.5
Heavy Trucks:	54.6	54.0	44.9	46.2	54.5	54.7
Vehicle Noise:	59.4	58.5	54.6	50.7	59.2	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	120
CNEL:	13	27	59	127

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Southwood
Road Segment: Yale Avenue to Colt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,052 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	252 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.85	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.09	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.04	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.1	57.0	55.3	49.2	57.8	58.4
Medium Trucks:	52.3	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.2	53.6	44.5	45.8	54.1	54.3
Vehicle Noise:	60.3	59.4	56.0	51.6	60.1	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	41	88

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Southwood
Road Segment: Challenger to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,844 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	235 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.16	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.8	56.7	55.0	48.9	57.5	58.1
Medium Trucks:	52.0	51.3	45.0	43.4	51.9	52.1
Heavy Trucks:	53.9	53.3	44.2	45.5	53.8	54.0
Vehicle Noise:	60.0	59.1	55.7	51.3	59.8	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	84

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Spectrum Center Drive (Fortune
Road Segment: Pacifica to Quassar Drive (Spectrum)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,887 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	981 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.2	56.4	50.3	59.0	59.6
Medium Trucks:	53.7	53.1	46.7	45.1	53.6	53.8
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	61.7	60.9	57.2	53.0	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	171
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Spectrum Center Drive (Fortune
Road Segment: Quassar Drive (Spectrum) to Gatewayb

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,271 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,095 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-20.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.9	50.8	59.4	60.1
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.7	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	62.2	61.4	57.7	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	184
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sunnyhill
Road Segment: Shady Canyon Drive to Turtle Rock Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,698 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	553 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-1.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-19.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-23.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.5	53.5	51.7	45.6	54.3	54.9
Medium Trucks:	49.3	48.7	42.3	40.8	49.2	49.5
Heavy Trucks:	52.6	52.0	42.9	44.2	52.5	52.7
Vehicle Noise:	57.4	56.6	52.7	48.7	57.2	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	88
CNEL:	9	20	43	94

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Technology Drive
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,103 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,648 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	638
CNEL:	68	147	318	685

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Technology Drive
Road Segment: Old Laguna Canyon Road to I-5/SR-133 Undercrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,614 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,948 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.95	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.0	68.1	64.9	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	241	520
CNEL:	56	120	259	558

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Technology Drive
Road Segment: I-5/SR-133 to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,678 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,871 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	68.8	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	235	506
CNEL:	54	117	252	543

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Technology Drive
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,697 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	59.9	58.2	52.1	60.7	61.3
Medium Trucks:	54.7	54.1	47.7	46.2	54.6	54.9
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.8	61.9	58.8	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	94	202
CNEL:	22	47	100	216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Toledo Way
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,035 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	663 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	57.3	56.7	50.3	48.8	57.2	57.4
Heavy Trucks:	57.7	57.2	48.1	49.4	57.7	57.9
Vehicle Noise:	65.5	64.5	61.5	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	151	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Toledo Way
Road Segment: Goodyear to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,383 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	527 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.4
Heavy Trucks:	56.7	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.5	63.5	60.5	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	259
CNEL:	28	60	129	278

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Toledo Way
Road Segment: Alton Parkway to Parker
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,879 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	485 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.3	59.6	53.5	62.1	62.8
Medium Trucks:	56.0	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	56.4	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	64.1	63.2	60.1	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	114	245
CNEL:	26	57	122	263

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: Keystone to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,594 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,204 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: Jeffrey Road to Keystone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,846 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,142 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.4	58.9	49.8	51.1	59.4	59.5
Vehicle Noise:	66.7	65.8	62.6	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	364
CNEL:	39	84	181	391

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: Culver Drive to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,275	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,095	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: Monroe to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,181 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,087 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.2	58.6	49.6	50.9	59.2	59.3
Vehicle Noise:	66.5	65.6	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	353
CNEL:	38	81	176	378

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: I-5 NB Off-Ramp to Monroe

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,860 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,061 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.3	57.6	51.2	49.7	58.2	58.4
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.4	65.4	62.3	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	161	347
CNEL:	37	80	173	372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: Yale Avenue to Remington

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,949 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	986 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	330
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: Remington to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,295 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	932 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	57.7	57.0	50.7	49.1	57.6	57.8
Heavy Trucks:	58.6	58.0	48.9	50.2	58.5	58.7
Vehicle Noise:	65.8	64.9	61.7	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	148	318
CNEL:	34	74	158	341

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Ridge Drive
Road Segment: Federation Way to Bonita Canyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,977 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,731 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	239	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Rock Drive
Road Segment: Ridgeline to Willowleaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,738 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	721 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.37	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.61	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.57	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	250
CNEL:	27	58	125	269

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Rock Drive
Road Segment: Silkwood to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,638 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	713 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.42	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.66	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.62	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.6	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	115	248
CNEL:	27	57	124	266

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Rock Drive
Road Segment: Canyon Park to Ridgeline
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,159 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	591 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.43	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.6	58.0	51.6	50.0	58.5	58.7
Heavy Trucks:	59.5	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	66.7	65.8	62.6	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	24	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Rock Drive
Road Segment: Sunnyhill to Southernwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,587 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	296 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-28.43	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	55.6	55.0	48.6	47.0	55.5	55.7
Heavy Trucks:	56.5	55.9	46.8	48.1	56.4	56.6
Vehicle Noise:	63.7	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	138
CNEL:	15	32	69	148

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Rock Drive
Road Segment: Campus Drive to Hillgate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,106 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	586 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	234
CNEL:	25	54	116	251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Rock Drive
Road Segment: Paseo Segovia to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,064 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	335 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.70	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-23.94	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-27.89	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.0
Vehicle Noise:	65.2	64.3	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	185
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Golden Glow to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,678 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,521 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.1	70.8	71.4
Medium Trucks:	64.6	63.9	57.5	56.0	64.5	64.7
Heavy Trucks:	65.0	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	72.7	71.8	68.7	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	919
CNEL:	99	213	458	988

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Ridgeline to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,367 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,320 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.95	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.29	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-17.25	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.6	67.8	61.7	70.4	71.0
Medium Trucks:	64.2	63.5	57.1	55.6	64.1	64.3
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	482	1,037
CNEL:	111	240	517	1,115

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Culver Drive to Golden Glow
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,441 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,419 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.1	62.0	70.6	71.2
Medium Trucks:	64.5	63.8	57.4	55.9	64.3	64.6
Heavy Trucks:	64.9	64.3	55.2	56.5	64.9	65.0
Vehicle Noise:	72.6	71.7	68.6	63.8	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	901
CNEL:	97	209	450	968

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Yale Avenue to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,983 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,051 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.6	61.5	70.1	70.7
Medium Trucks:	64.0	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.1	71.2	68.1	63.3	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	388	836
CNEL:	90	193	417	898

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,667 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,840 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.3	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	64.7	64.1	55.1	56.4	64.7	64.8
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	255	550	1,185
CNEL:	127	274	591	1,273

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Mesa to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,486 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,753 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.33	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.90	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.86	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.8	63.7	72.3	72.9
Medium Trucks:	66.2	65.5	59.1	57.6	66.0	66.3
Heavy Trucks:	66.6	66.0	57.0	58.2	66.6	66.7
Vehicle Noise:	74.3	73.4	70.3	65.5	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	522	1,124
CNEL:	121	260	561	1,208

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,290 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,819 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.41	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.83	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.78	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.2	65.6	59.2	57.7	66.1	66.4
Heavy Trucks:	66.6	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.4	73.4	70.4	65.6	74.2	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	528	1,138
CNEL:	122	263	567	1,222

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: California Avenue to Mesa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,330 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,657 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.22	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.02	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.97	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.8
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.5	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.2	73.3	70.2	65.4	74.0	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	238	513	1,105
CNEL:	119	256	551	1,187

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,078 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.8	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.5	69.6	66.5	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	877
CNEL:	94	203	437	942

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,667 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.19	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-17.43	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-21.38	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	603
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,047 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,809 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.08	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.16	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	178	383	825
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: San Joaquin to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,020 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,477 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.53	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.71	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.66	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	352	758
CNEL:	81	176	378	815

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Harvard Avenue to San Joaquin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,892 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,466 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.51	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.73	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.4	60.7	54.3	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	351	756
CNEL:	81	175	377	812

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Valley Oak Drive
Road Segment: Hawkcreek to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,433 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,108 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.7	58.9	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	92	197	425
CNEL:	46	98	212	457

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Valley Oak Drive
Road Segment: Irvine Center Drive to Oak Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,018 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	909 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.82	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-20.06	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-24.02	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.7	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.1	60.5	51.4	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.8	60.0	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	87	187	402
CNEL:	43	93	201	432

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Valley Oak Drive
Road Segment: Barranca Parkway to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,317 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	851 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-20.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-24.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	58.8	58.2	49.2	50.5	58.8	58.9
Vehicle Noise:	66.5	65.6	62.6	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	357
CNEL:	38	83	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Valley Oak Drive
Road Segment: Alton Parkway to Hawkcreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,501 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	536 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.4	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	56.8	56.2	47.2	48.5	56.8	56.9
Vehicle Noise:	64.5	63.6	60.6	55.8	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	122	262
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Marriott to Morse Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,606 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,855 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.7	69.7	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	311	671
CNEL:	72	155	334	720

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Michelson Drive to Quartz

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,326 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,749 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	70.5	69.6	66.4	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	141	304	654
CNEL:	70	151	326	702

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: McGaw Avenue to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,069 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,728 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.4	61.7	55.3	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.5	69.6	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	651
CNEL:	70	150	324	698

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,216 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,400 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.36	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.87	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	84.25	-17.83	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.1	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	742
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Main Street to Anchor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,464 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,678 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.2
Vehicle Noise:	70.4	69.5	66.3	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	298	643
CNEL:	69	149	320	690

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Anchor to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,313 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,583 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	628
CNEL:	67	145	313	673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Morse to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,530 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,436 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.7	62.1	53.1	54.4	62.7	62.8
Vehicle Noise:	70.0	69.1	65.9	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Martin to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,404 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,096 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.6	54.2	52.7	61.1	61.3
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.3	68.4	65.3	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	253	546
CNEL:	59	126	272	586

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Campus Drive to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,957 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,059 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	250	540
CNEL:	58	125	269	579

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,911 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,055 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	250	539
CNEL:	58	125	268	578

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Jeffrey Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,208 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,822 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.5	61.9	55.5	53.9	62.4	62.6
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	70.6	69.7	66.5	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	143	309	666
CNEL:	71	154	332	714

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Myford Road to Jamboree Road SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,735 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,876 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.8	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	68.8	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	235	507
CNEL:	54	117	252	544

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: The Mall Street to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,014 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,734 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	240	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Harvard Avenue to The Mall Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,921 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,726 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.7	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.5	67.6	64.4	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	223	480
CNEL:	51	111	239	515

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Franciscan Street to Ravenwood Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,748 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,629 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.03	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	214	462
CNEL:	50	107	230	495

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Ravenwood Street to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,073 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,574 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.8	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	68.1	67.2	64.0	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	451
CNEL:	48	104	225	484

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Culver Drive to Franciscan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,198 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,584 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	210	453
CNEL:	49	105	226	486

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Peters Canyon Road to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,674 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,118 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.0	57.0	65.6	66.2
Medium Trucks:	59.6	59.0	52.6	51.0	59.5	59.7
Heavy Trucks:	60.5	59.9	50.8	52.1	60.5	60.6
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	124	266	573
CNEL:	62	133	286	615

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Walnut Avenue
Job Number: 15937
Road Segment: Jamboree Road NB Off-Ramp to Peters Canyon Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,721 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,039 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	260	559
CNEL:	60	129	278	600

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Yale Avenue to Kazan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,757 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,217 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.9	58.2	51.8	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.0	66.0	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	380
CNEL:	41	88	189	408

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Wisteria to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,563 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,201 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Warner Avenue
Road Segment: Jamboree Road SB Off-ramp to Construction North
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,741 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,371 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.8	68.4
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.8	68.9	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	593
CNEL:	64	137	295	636

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Warner Avenue
Road Segment: Construction North to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,878 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,640 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.6	57.5	66.1	66.8
Medium Trucks:	60.2	59.5	53.1	51.6	60.1	60.3
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	464
CNEL:	50	107	231	497

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Warner Avenue
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,949 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,151 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.7
Heavy Trucks:	59.5	58.9	49.8	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	366
CNEL:	39	85	182	393

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Warner Avenue
Road Segment: Santa Ynez to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,142 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	919 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Warner Avenue
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,428 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	860 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.8	54.7	63.3	64.0
Medium Trucks:	57.4	56.7	50.3	48.8	57.3	57.5
Heavy Trucks:	58.2	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	65.4	64.5	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	150	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Alton Parkway to Blue Lake North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,462 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	781 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.1	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.5	47.4	48.7	57.0	57.1
Vehicle Noise:	63.8	62.9	59.6	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Eagle Run to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,126 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	753 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.8	52.7	61.3	61.9
Medium Trucks:	55.6	54.9	48.5	47.0	55.4	55.7
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	63.6	62.7	59.4	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	227
CNEL:	24	52	113	244

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Thunder Run to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,279 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	766 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	55.6	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	57.0	56.4	47.3	48.6	56.9	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	107	230
CNEL:	25	53	114	246

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Main Street to Timber Run

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,177 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	592 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	54.5	53.9	47.5	45.9	54.4	54.6
Heavy Trucks:	55.8	55.3	46.2	47.5	55.8	55.9
Vehicle Noise:	62.6	61.7	58.4	53.8	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	194
CNEL:	21	45	96	207

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Yale Avenue to Shorebird

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,554 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	623 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.8	59.7	57.9	51.9	60.5	61.1
Medium Trucks:	54.7	54.1	47.7	46.2	54.6	54.9
Heavy Trucks:	56.1	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	62.8	61.9	58.6	54.1	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	93	201
CNEL:	21	46	100	215

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Warner Avenue to Stonecreek South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,766 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	558 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.5	51.4	60.0	60.6
Medium Trucks:	54.3	53.6	47.2	45.7	54.1	54.4
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	186
CNEL:	20	43	93	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,550 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.2	61.3	58.0	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	182
CNEL:	20	42	91	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Stonecreek North to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,628 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	547 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.4	51.3	59.9	60.5
Medium Trucks:	54.2	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.5	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	62.2	61.3	58.0	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	85	184
CNEL:	20	42	91	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Birdsong to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,435 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	531 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.5	53.9	54.2
Heavy Trucks:	55.4	54.8	45.7	47.0	55.3	55.5
Vehicle Noise:	62.1	61.2	57.9	53.4	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	180
CNEL:	19	42	90	193

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Westwood
Road Segment: Yorktown to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,049 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	499 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.88	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-21.12	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-25.07	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.1	56.5	47.5	48.8	57.1	57.2
Vehicle Noise:	63.3	62.4	59.0	54.6	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	130
CNEL:	14	30	65	139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Westwood
Road Segment: Bryan Avenue to Leaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,817 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	315 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.88	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.12	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.07	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.1	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	53.3	52.6	46.3	44.7	53.2	53.4
Heavy Trucks:	55.1	54.5	45.5	46.8	55.1	55.2
Vehicle Noise:	61.3	60.4	57.0	52.6	61.1	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	44	96
CNEL:	10	22	47	102

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Deerfield Avenue to Winvale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,532 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	869 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.56	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.80	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.76	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.8	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	283
CNEL:	30	66	141	304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Hicks Canyon Drive to Meadowood
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,828 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	646 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.85	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.09	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.04	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Walnut Avenue to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,775 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,219 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.09	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.33	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-22.29	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	63.5	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	70.8	69.9	66.7	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	203	438
CNEL:	47	101	218	470

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,287 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,179 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,713 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,131 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.6	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.6	65.7	62.6	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	362
CNEL:	39	84	180	388

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: West Yale Loop to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,162 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,003 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Winvale Avenue to Karen Ann Lane
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,472 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	864 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.6	48.6	49.9	58.2	58.3
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	151	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Karen Ann Lane to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,472 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	864 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.6	48.6	49.9	58.2	58.3
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	151	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Trabuco Road to Southwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,318 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	851 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	139	299
CNEL:	32	69	149	321

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Southwood to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,907 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	817 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	291
CNEL:	31	67	145	313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Northwood to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,164 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	756 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	64.9	64.0	60.8	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	128	277
CNEL:	30	64	138	297

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,902 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	734 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.7	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	64.8	63.9	60.7	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	126	271
CNEL:	29	63	135	291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Irvine Boulevard to Park Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,457 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	615 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	56.8	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.0	63.1	59.9	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: University Drive to Royce

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,979 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	328 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.79	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-24.03	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-27.98	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.1	54.5	48.1	46.6	55.0	55.3
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	63.2	62.3	59.2	54.5	63.0	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	171
CNEL:	18	40	85	184

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Court
Road Segment: Arborwood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,441 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	531 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.14	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-19.38	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-23.34	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.2	54.4	48.3	57.0	57.6
Medium Trucks:	52.1	51.4	45.0	43.5	51.9	52.2
Heavy Trucks:	55.3	54.7	45.6	46.9	55.3	55.4
Vehicle Noise:	60.1	59.3	55.4	51.4	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

APPENDIX G

Irvine General Plan Update Traffic Noise Assessment

MEMORANDUM

URBAN | CROSSROADS

DATE: March 11, 2024
TO: Nick Larkin, RECON Environmental, Inc.
FROM: William Maddux
JOB NO: Noise Assessment

IRVINE GENERAL PLAN UPDATE TRAFFIC NOISE ASSESSMENT

Nick Larkin,

Urban Crossroads, Inc. is pleased to provide the following Traffic Noise Assessment for the Irvine General Plan Update (Project). The City of Irvine is adjacent to the County of Orange, as well as the Cities of Newport Beach, Costa Mesa, Orange, Lake Forest, Tustin, Santa Ana, Laguna Hills, Laguna Woods, and Laguna Beach. With the adoption of the certified 2021-2029 Housing Element in May 2022, the City is required to update the appropriate elements of the General Plan to accommodate the residential site inventory from the 2021-2029 Housing Element. This includes updates to the land use element and the circulation element. Additionally, the City would update the open space element, safety element, and noise element to address statutory requirements. The City would introduce an environmental protection and climate action element and would also incorporate health and wellness throughout the updated General Plan. The Draft Program EIR will address the short- and long-term effects of the project on the environment.

PROJECT SCENARIOS

The Project Scenarios evaluated in the Noise Assessment are as follows:

- **Current General Plan/ No Project Alternative** – This scenario represents the currently approved Buildout land uses as permitted under the City's existing adopted General Plan. Future development under this Alternative includes unbuilt dwelling units and non-residential uses identified in the existing General Plan. The Great Park Framework Plan Phase 1 land uses are also included in this scenario. The Current General Plan land uses modeled for this assessment were obtained from Table 3-2 from the *Irvine General Plan Update VMT Study* prepared by Iteris, Inc.
- **Conservative Project Scenario** – This alternative evaluates the Current General Plan plus 57,656 RHNA housing units within the adopted Housing Site Inventory sites in the City' approved Housing Element. The 57,656 new residential units consist of 55,395 new dwelling units and 2,261 unbuilt units already in the General Plan. For the purpose of evaluating potential

effects, 55,395 dwelling units are analyzed under this alternative. This alternative also includes an analysis of both Phase 1 and Buildout of the Great Park Framework Plan land uses and the extension of Ada roadway from the Irvine Metrolink/Amtrak Station to Marine Way o. The Conservative Project Scenario land uses modeled for this assessment were obtained from Tables 2-1 and 2-3 from the *Irvine General Plan Update VMT Study* prepared by Iteris, Inc.

- **Cumulative Plus Conservative Project Scenario** – This scenario evaluates the Conservative Project Scenario plus additional cumulative projects that are assumed to be built in the background conditions in both the City of Irvine and in surrounding jurisdictions. Cumulative projects include known future residential development in adjacent Cities. The Cumulative Plus Conservative Project Scenario land uses modeled in this assessment were obtained from Tables 2-1, 2-3, and 2-4 from the *Irvine General Plan Update VMT Study* prepared by Iteris, Inc.

4 NOISE LEVEL INCREASES

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines. Under CEQA, consideration must be given to the magnitude of the increase, the existing baseline ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach *recognizes that there is no single noise increase that renders the noise impact significant.* (16) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) (17) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}).

The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in baseline ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project (baseline) noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels

of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (18 p. 9) and Caltrans (7 p. 2_48).

SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. The following significance criteria summary matrix includes the allowable criteria used to identify potentially significant incremental noise level increases.

Analysis	Receiving Land Use	Condition(s)	Significance Criteria
Off-Site	Noise-Sensitive[1]	if ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase
		if ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase
		if ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase

[1] FICON, 1992.

TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future traffic noise environment. Consistent with the City of Irvine General Plan Policies, all transportation related noise levels are presented in terms of the 24-hour CNEL's.

FHWA TRAFFIC NOISE PREDICTION MODEL

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period.

OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 1 (Appendix A) identifies the 540 off-site study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the Project traffic report, and the posted vehicle speeds. Consistent with the *Traffic Analysis* prepared by Iteris, Inc. for the Project, the off-site traffic noise analysis includes the following traffic scenarios.

- Existing Conditions
- Current General Plan Buildout/No Project Alternative
- Conservative Alternative
- Cumulative Conservative Alternative
- Reduced Project Alternative

- Cumulative Reduced Project Alternative

The ADT volumes used for this study are presented on Table 2 (Appendix A). Table 3 and Table 4 (Appendix A) provide the time of day (daytime, evening, and nighttime) vehicle splits used for calculating CNEL values.

The traffic volumes shown on Table 2 reflect future long-range traffic conditions needed to assess the future on-site traffic noise environment and to identify potential mitigation measures (if any) that address the worst-case future conditions. For the purposes of this analysis, soft site conditions were used to analyze the on-site traffic noise impacts for the Project study area. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (23) Table 3 presents the time-of-day vehicle splits by vehicle type used to develop the 24-hour CNEL, and Table 4 presents the total traffic flow distributions (vehicle mixes) used for this analysis. The information in Tables 3 and 4 provides the hourly distribution percentages of automobile, medium trucks, and heavy trucks for input into the FHWA Model based on roadway types.

TRANSPORTATION NOISE IMPACTS

Noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 5 to 10 present a summary of the exterior traffic noise levels for each traffic condition. Appendix B includes the traffic noise level contours worksheets for each traffic condition.

TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 5 through 10 present a summary of the exterior traffic noise levels, without barrier attenuation, for the 540 study area roadway segments. Appendix B includes a summary of the traffic noise level contours for each of the traffic scenarios.

EXISTING GENERAL PLAN/NO PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the Current General Plan has been included in this report to fully analyze all the traffic scenarios identified in the *Traffic*

Impact Analysis. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Table 5 (Appendix A) shows the Existing conditions CNEL noise levels. The Existing exterior noise levels are expected to range from up to 79.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 6 (Appendix A) shows the General Plan Buildout conditions will range from 53.5 to 79.1 CNEL, except along Ada Street since it would not exist under the current General Plan. Table 11 (Appendix A) shows that the General Plan Buildout conditions off-site traffic noise level impacts will exceed noise level increase thresholds along 86 segments. Based on the significance criteria for off-site traffic noise, land uses adjacent to these study area roadway segments would experience a significant noise level increases due to the Project-related traffic as compared to the existing traffic noise levels.

EXISTING TO CONSERVATIVE PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the Conservative Project has been included in this report to fully analyze all the traffic scenarios identified in the *Traffic Impact Analysis*. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Table 5 shows the Existing conditions CNEL noise levels. The Existing exterior noise levels are expected to range from up to 79 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7 shows the Conservatve Project Buildout conditions will range from 53.2 to 79.2 dBA CNEL. Table 12 shows that the Conservatve Project Buildout conditions off-site traffic noise level impacts will exceed noise level increase thresholds along 138 segments. Based on the significance criteria for off-site traffic noise, land uses adjacent to these study area roadway segments would experience a significant noise level increases due to the Project-related traffic as compared to the existing traffic noise levels.

EXISTING TO REDUCED PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the Reduced Project Alternative has been included in this report to fully analyze all the traffic scenarios identified in the *Traffic Impact Analysis*. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Table 5 shows the Existing conditions CNEL noise levels. The Existing exterior noise levels are expected to range from up to 79.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 9 shows the Reduced Project Alternative conditions will range from 53.2 to 79.1 dBA CNEL. Table 13 shows that the Reduced Project Alternative conditions off-site traffic noise level impacts will exceed noise level increase thresholds along 124 segments. Based on the significance criteria for off-site traffic noise, land uses adjacent to these study area roadway segments would experience a significant noise level increases due to the Project-related traffic as compared to the existing traffic noise levels.

CUMULATIVE CONSERVATIVE TRAFFIC NOISE LEVEL INCREASES

An analysis of cumulative traffic noise levels generated by the Conservative Project has been included in this report to fully analyze all the traffic scenarios identified in the *Traffic Impact Analysis*. Table 5 shows the Existing without Project conditions CNEL noise levels. The Existing

without Project exterior noise levels are expected to range from up to 79.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 8 shows the Cumulative Conservative conditions will range from 53.2 to 79.2 dBA CNEL. Table 14 shows that under the Cumulative Conservative conditions off-site traffic noise level impacts will exceed noise level increase thresholds along 147 segments. Based on the significance criteria for off-site traffic noise, land uses adjacent to these study area roadway segments would experience a significant cumulative noise level increases due to the Project-related traffic as compared to the existing traffic noise levels.

CUMULATIVE REDUCED PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of cumulative traffic noise levels generated by the Reduced Project Alternative has been included in this report to fully analyze all the traffic scenarios identified in the *Traffic Impact Analysis*. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Table 5 shows the Existing conditions CNEL noise levels. The Existing exterior noise levels are expected to range from up to 74.3 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 9 shows the Cumulative Conservative conditions will range from 53.2 to 79.1 dBA CNEL. Table 15 shows that under the Cumulative Conservative plus Reduced Project Alternative conditions off-site traffic noise level impacts will exceed noise level increase thresholds along 129 segments. Based on the significance criteria for off-site traffic noise, land uses adjacent to these study area roadway segments would experience a significant noise level increases due to the Project-related traffic as compared to the existing traffic noise levels.

CUMULATIVE REDUCED PROJECT TRAFFIC NOISE LEVEL INCREASES OVER CURRENT GENRAL PLAN

An analysis of cumulative traffic noise levels generated by the Conservative Plan versus the Current General Plan has been included in this report to fully analyze all the traffic scenarios identified in the *Traffic Impact Analysis*. Table 6 shows the Current General Plan conditions CNEL noise levels. The Current General Plan exterior noise levels are expected to range from 53.5 to 79.1 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Except along Ada Street which would not exist. Table 8 shows the Cumulative Conservative conditions will range from 53.2 to 79.2 dBA CNEL. Table 16 shows that under the Cumulative Conservative conditions off-site traffic noise level impacts will exceed noise level increase thresholds along 16 segments not accounted for in the previous General Plan. Based on the significance criteria for off-site traffic noise, land uses adjacent to these study area roadway segments would experience a significant noise level increases due to the Project-related traffic as compared to the existing traffic noise levels.

CUMULATIVE REDUCED PROJECT TRAFFIC NOISE LEVEL INCREASES OVER CURRENT GENRAL PLAN

An analysis of cumulative traffic noise levels generated by the Reduced Project Alternative versus the Current General Plan has been included in this report to fully analyze all the traffic scenarios identified in the *Traffic Impact Analysis*. Table 6 shows the Current General Plan conditions CNEL noise levels. The Current General Plan exterior noise levels are expected to range from 53.5 to

79.1 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Except along Ada Street which would not exist. Table 10 shows the Reduced Project Alternative conditions will range from 53.2 to 79.1 dBA CNEL. Table 17 shows that under the Reduced Project Alternative conditions off-site traffic noise level impacts will exceed noise level increase thresholds along 9 segments not accounted for in the previous General Plan. Based on the significance criteria for off-site traffic noise, land uses adjacent to these study area roadway segments would experience a significant noise level increases due to the Project-related traffic as compared to the existing traffic noise levels.

ATTACHMENT A

NOISE TABLES

Table 1: Off-Site Roadway Parameters

ID	Roadway	Segment	Classification[1]	Centerline Distance to Receiving Land Use (Feet)[2]	Vehicle Speed (mph)
1	Ada	Barranca Parway to Marine Way	Commuter	38'	40
2	Ada	Alton Parkway to Barranca PArkway	Primary	63'	40
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	Major	84'	50
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	Major	80'	50
5	Alton Parkway	East Yale Loop to Jeffrey Road	Primary	63'	50
6	Alton Parkway	Gateway Boulevard to Enterprise	Major	84'	50
7	Alton Parkway	Jeffrey Road to Royal Oak	Primary	63'	50
8	Alton Parkway	Daimler Street to Red Hill Avenue	Primary	63'	50
9	Alton Parkway	Culver Drive to West Yale Loop	Primary	63'	50
10	Alton Parkway	West Yale Loop to Lake Road	Primary	63'	50
11	Alton Parkway	Technology Drive West to Ada	Major	80'	50
12	Alton Parkway	Creek Road to East Yale Loop	Primary	63'	50
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	Primary	63'	50
14	Alton Parkway	Lake Road to Creek Road	Primary	63'	50
15	Alton Parkway	Telemetry to Banting	Primary	63'	50
16	Alton Parkway	Irvine Boulevard to Commercentre	Major	84'	50
17	Alton Parkway	Jenner to Telemetry	Primary	63'	50
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	Major	84'	50
19	Alton Parkway	Sand Canyon Avenue to Hospital	Primary	60'	50
20	Alton Parkway	Laguna Canyon Road to Jenner	Primary	63'	50
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	Major	84'	50
22	Alton Parkway	Royal Oak to Valley Oak Drive	Primary	63'	50
23	Alton Parkway	Banting to Pacifica	Primary	63'	50
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	Major	84'	50
25	Alton Parkway	Ada to Technology Drive East	Major	84'	50

Table 1

26	Alton Parkway	Von Karman Avenue to Jamboree Road	Primary	63'	50
27	Alton Parkway	Jeronimo Road to Hughes	Major	84'	50
28	Alton Parkway	Hughes to Morgan	Major	84'	50
29	Alton Parkway	Morgan to Toledo Way	Major	84'	50
30	Alton Parkway	San Marino to Culver Drive	Major	84'	50
31	Alton Parkway	Jamboree Road to Murphy Avenue	Major	84'	50
32	Alton Parkway	Hospital to Laguna Canyon Road	Primary	60'	50
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	Primary	60'	50
34	Alton Parkway	Murphy Avenue to Harvard Avenue	Major	84'	50
35	Alton Parkway	Foster to Irvine Boulevard	Major	84'	50
36	Alton Parkway	Fairbanks to Foster	Major	84'	50
37	Alton Parkway	Toledo Way to Bertea	Major	84'	50
38	Alton Parkway	Pacifica to Meridian	Primary	60'	50
39	Alton Parkway	Bertea to Fairbanks	Major	84'	50
40	Alton Parkway	Meridian to Irvine Center Drive	Major	84'	50
41	Alton Parkway	Paseo Westpark to San Marino	Major	84'	50
42	Alton Parkway	Harvard Avenue to Paseo Westpark	Major	84'	50
43	Astor	Lynx to Fairbanks	Commuter	38'	30
44	Astor	Cadence to Lynx	Commuter	38'	30
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	Major	100'	50
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	Major	84'	50
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	Major	100'	50
48	Bake Parkway	Jeronimo Road to Toledo Way	Major	84'	50
49	Bake Parkway	Toledo Way to Cromwell	Major	84'	50
50	Bake Parkway	Cromwell to Irvine Boulevard	Major	84'	50
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	Major	84'	50
52	Bake Parkway	Irvine Center Drive to Research Drive	Major	84'	50
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	Major	84'	50
54	Banting	Alton Parkway to Barranca Parkway	Primary	63'	35
55	Barranca Parkway	Pacifica to Irvine Center Drive	Primary	63'	55
56	Barranca Parkway	Banting to Pacifica	Primary	63'	55

Table 1

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	Primary	63'	55
58	Barranca Parkway	Technology Drive West to Ada	Primary	63'	55
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	Primary	63'	55
60	Barranca Parkway	Culver Drive to West Yale Loop	Primary	63'	55
61	Barranca Parkway	East Yale Loop to Jeffrey Road	Primary	63'	55
62	Barranca Parkway	West Yale Loop to Lake Road	Primary	63'	55
63	Barranca Parkway	Ada to Alton Parkway	Primary	63'	55
64	Barranca Parkway	Lake Road to Creek Road	Primary	63'	55
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	Major	100'	55
66	Barranca Parkway	Discovery/Herchel to Banting	Primary	63'	55
67	Barranca Parkway	Lyon to East Yale Loop	Primary	63'	55
68	Barranca Parkway	Creek Road to Lyon	Primary	63'	55
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	Major	80'	55
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	Primary	63'	55
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	Major	80'	55
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	Primary	63'	55
73	Barranca Parkway	Jamboree Road to Construction Circle	Major	84'	55
74	Barranca Parkway	Santa Rosa to Culver Drive	Major	84'	55
75	Barranca Parkway	FedEx to Discovery/Herchel	Primary	63'	55
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	Primary	63'	55
77	Barranca Parkway	Laguna Canyon Road to FedEx	Primary	63'	55
78	Barranca Parkway	Pullman Street to Red Hill Avenue	Major	100'	55
79	Barranca Parkway	Construction Circle to Fire Station	Major	84'	55
80	Barranca Parkway	Fire Station to Harvard Avenue	Major	84'	55
81	Barranca Parkway	Paseo Westpark to Santa Rosa	Major	84'	55
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	Major	84'	55
83	Bay Tree	Trabuco Road to Roosevelt	Primary	63'	35
84	Beacon	Ridge Valley to Benchmark	Commuter	38'	30
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	Commuter	38'	30
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	Primary	63'	45
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	Primary	75'	50

Table 1

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	Primary	75'	50
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	Primary	75'	50
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	Primary	75'	50
91	Bosque	Cadence to Great Park Boulevard	Commuter	38'	30
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	Commuter	38'	30
93	Bosque	Benchmark to Cadence	Commuter	38'	30
94	Bosque	Great Park Boulevard to Beacon	Commuter	38'	30
95	Bosque	Beacon to S 5th Street	Commuter	38'	30
96	Bryan Avenue	Jamboree Road to Market Place	Primary	63'	45
97	Bryan Avenue	Market Place to El Camino Real	Primary	63'	45
98	Bryan Avenue	Rubicon to Culver Drive	Primary	63'	45
99	Bryan Avenue	El Camino Real to Rubicon	Primary	63'	45
100	Bryan Avenue	Eastwood to Jeffrey Road	Primary	63'	45
101	Bryan Avenue	Westwood to Yale Avenue	Primary	63'	45
102	Bryan Avenue	Culver Drive to Westwood	Primary	63'	45
103	Bryan Avenue	Yale Avenue to Eastwood	Primary	63'	45
104	Cadence	Pusan to Chinon	Commuter	38'	40
105	Cadence	Bosque to Pusan	Commuter	38'	40
106	Cadence	Ridge Valley (O Street) to Bosque	Commuter	38'	40
107	Cadence	Chinon to Merit	Commuter	38'	40
108	Cadence	Merit to Astor	Commuter	38'	40
109	California Avenue	University Drive to Academy Way	Primary	63'	40
110	California Avenue	Campus Drive to Harvard Avenue	Primary	63'	40
111	California Avenue	Theory to Bison Avenue	Primary	63'	40
112	Campus Drive	Carlson Avenue to University Drive	Commuter	50'	50
113	Campus Drive	University Drive to Bridge Road	Primary	63'	50
114	Campus Drive	Jamboree Road to Carlson Avenue	Primary	63'	50
115	Campus Drive	Stanford Court to Berkeley Avenue	Primary	63'	50
116	Campus Drive	California Avenue to Culver Drive	Primary	63'	50
117	Campus Drive	Berkeley Avenue to Cornell	Primary	63'	50
118	Campus Drive	Martin to Von Karman Avenue	Primary	63'	50

Table 1

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	Primary	63'	50
120	Campus Drive	Von Karman Avenue to Teller Avenue	Primary	63'	50
121	Campus Drive	MacArthur Boulevard to Martin	Primary	63'	50
122	Campus Drive	Teller Avenue to Jamboree Road	Primary	63'	50
123	Carlson Avenue	Michelson Drive to Campus Drive	Primary	63'	50
124	Chinon	Irvine Boulevard to Cadence	Commuter	38'	25
125	Creek Road	Alton Parkway to Barranca Parkway	Primary	63'	25
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	Major	84'	55
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	Major	84'	55
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	Major	84'	55
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	Major	84'	55
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	Major	84'	55
131	Culver Drive	San Leandro to Main Street	Major	84'	55
132	Culver Drive	Harvard Avenue to University Drive	Major	84'	55
133	Culver Drive	Trabuco Road to Farwell Avenue	Major	80'	55
134	Culver Drive	Alton Parkway to Barranca Parkway	Major	84'	55
135	Culver Drive	Main Street to Alton Parkway	Major	84'	55
136	Culver Drive	Warner Avenue to Irvine Center Drive	Major	84'	55
137	Culver Drive	Walnut Avenue to Scottsdale Dive	Major	84'	55
138	Culver Drive	Barranca Parkway to Warner Avenue	Major	84'	55
139	Culver Drive	Shady Canyon Drive to Palo Verde	Primary	63'	55
140	Culver Drive	Deerfield Avenue to Walnut Avenue	Major	84'	55
141	Culver Drive	Sandburg Way to Michelson Drive	Major	84'	55
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	Major	84'	55
143	Culver Drive	Palo Verde to Campus Drive	Primary	63'	55
144	Culver Drive	University Drive to Sandburg Way	Major	84'	55
145	Culver Drive	Farwell Avenue to Bryan Avenue	Major	80'	55
146	Culver Drive	Campus Drive to High School	Major	84'	55
147	Culver Drive	High School to Harvard Avenue	Major	84'	55
148	Culver Drive	Bryan Avenue to Florence	Major	84'	55
149	Culver Drive	Portola Parkway to Settlers	Primary	63'	55

Table 1

150	Culver Drive	Florence to Irvine Boulevard	Major	84'	55
151	Culver Drive	Irvine Boulevard to Viewpark	Major	84'	55
152	Culver Drive	Viewpark to Meadowood	Major	84'	55
153	Culver Drive	Settlers to Furrow	Primary	63'	55
154	Culver Drive	Meadowood to Portola Parkway	Major	84'	55
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	Primary	63'	40
156	Discovery Drive	Waterworks Way to Irvine Center Drive	Primary	63'	40
157	East Yale Loop	Alton Parkway to Witherspoon	Primary	63'	40
158	East Yale Loop	Osborn Street to Barranca Parkway	Primary	63'	40
159	East Yale Loop	Yale Avenue to Springbrook South	Primary	63'	40
160	East Yale Loop	Springbrook North to Alton Parkway	Primary	63'	40
161	East Yale Loop	Woodspring to Yale Avenue	Primary	63'	40
162	East Yale Loop	Barranca Parkway to Eastshore	Primary	63'	40
163	Eastwood	Bryan Avenue to Monticello	Commuter	38'	35
164	Eastwood	Columbus to Bryan Avenue	Commuter	38'	35
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	Primary	63'	40
166	El Camino Real North	El Camino Real to Bryan Avenue	Primary	63'	40
167	Fairbanks	Alton Parkway to Astor	Commuter	38'	40
168	Fairbanks	Irvine Boulevard to Alton Parkway	Commuter	38'	40
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	Primary	63'	45
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	Primary	63'	30
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	Primary	63'	30
172	Gateway Boulevard	Irvine Center Drive to Meridian	Primary	63'	30
173	Great Park Boulevard	Sand Canyon to Ridge Valley	Primary	60'	50
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	Primary	63'	50
175	Great Park Boulevard (EB)	Bosque to Skyhawk	Commuter	38'	50
176	Great Park Boulevard (WB)	Bosque to Skyhawk	Commuter	38'	50
177	Harvard Avenue	University Drive to Michelson Drive	Commuter	38'	45
178	Harvard Avenue	Michelson Drive to Coronado	Primary	63'	45
179	Harvard Avenue	San Marino to Alton Parkway	Primary	63'	45
180	Harvard Avenue	Coronado to Main Street	Primary	63'	45

Table 1

181	Harvard Avenue	San Carlo to San Marino	Primary	63'	45
182	Harvard Avenue	Main Street to San Carlo	Primary	63'	45
183	Harvard Avenue	Alton Parkway to San Leon	Primary	63'	45
184	Harvard Avenue	San Juan to Barranca Parkway	Primary	63'	45
185	Harvard Avenue	San Leon to San Juan	Primary	63'	45
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	Primary	63'	45
187	Harvard Avenue	Deerfield Avenue to Poplar Street	Primary	63'	45
188	Harvard Avenue	Barranca Parkway to Warner Avenue	Primary	63'	45
189	Harvard Avenue	Bridge Road to University Drive	Primary	63'	45
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	Primary	63'	45
191	Harvard Avenue	Poplar Street to Walnut Avenue	Commuter	50'	45
192	Harvard Avenue	California Avenue to Berkeley Avenue	Primary	63'	45
193	Harvard Avenue	Culver Drive to California Avenue	Primary	63'	45
194	Harvard Avenue	Berkeley to Bridge Road	Primary	63'	45
195	Harvard Avenue	Warner Avenue to Paseo Westpark	Primary	63'	45
196	Hicks Canyon Drive	Delamesa to Yale Avenue	Commuter	50'	35
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	Commuter	38'	25
198	Hubble	Irvine Center Drive to Bunsen	Commuter	38'	25
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	Major	84'	55
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	Major	84'	55
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	Major	80'	55
202	Irvine Boulevard	Merit to Alton	Major	84'	55
203	Irvine Boulevard	Journey to Sand Canyon Avenue	Major	84'	55
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	Major	84'	55
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	Major	84'	55
206	Irvine Boulevard	Palo Lado to Yale Avenue	Major	84'	55
207	Irvine Boulevard	Culver Drive to Palo Lado	Major	84'	55
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	Major	84'	55
209	Irvine Boulevard	Old Myford Road to Market Place	Major	84'	55
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	Major	84'	55
211	Irvine Boulevard	Jamboree Road to Old Myford Road	Major	84'	55

Table 1

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	Major	84'	55
213	Irvine Boulevard	Jeffrey Road to Groveland	Major	84'	55
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	Major	84'	55
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to Jeffrey Road	Major	84'	55
216	Irvine Boulevard	Chinon (B Street) to Merit	Major	84'	55
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	Major	84'	55
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	Major	84'	55
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	Major	84'	55
220	Irvine Boulevard	Modjeska to Pusan Way	Major	84'	55
221	Irvine Boulevard	Central Park Avenue to Culver Drive	Major	84'	55
222	Irvine Boulevard	Parker to Bake Parkway	Major	84'	55
223	Irvine Boulevard	Alton Parkway to Fairbanks	Major	84'	55
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	Major	80'	50
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	Major	84'	50
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	Major	80'	50
227	Irvine Center Drive	Irvine Valley College to Orange Tree	Major	84'	50
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	Major	84'	50
229	Irvine Center Drive	Culver Drive to Deerwood	Major	84'	50
230	Irvine Center Drive	Deerwood to Yale Avenue	Major	84'	50
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	Major	84'	50
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	Major	84'	50
233	Irvine Center Drive	Alton Parkway to Spectrum	Major	84'	50
234	Irvine Center Drive	Spectrum to Pacifica	Major	84'	50
235	Irvine Center Drive	Hearthstone to Culver Drive	Major	84'	50
236	Irvine Center Drive	Charter to Barranca Parkway	Major	84'	50
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	Major	84'	50
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	Major	84'	50
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	Major	84'	50
240	Irvine Center Drive	Harvard Avenue to Hearthstone	Major	84'	50
241	Irvine Center Drive	Research to Hubble	Major	84'	50
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	Major	84'	50

Table 1

243	Irvine Center Drive	Bake Parkway to Muller	Major	84'	50
244	Irvine Center Drive	Discovery to Charter	Major	84'	50
245	Irvine Center Drive	Hubble to Bake Parkway	Major	84'	50
246	Irvine Center Drive	Muller to Tesla	Major	84'	50
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	Major	84'	50
248	Irvine Center Drive	Tesla to Scientific Way	Major	84'	50
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	Major	84'	50
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	Major	84'	50
251	Irvine Center Drive	Laguna Canyon Road to Discovery	Major	84'	50
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	Major	84'	50
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	Major	84'	50
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	Major	84'	55
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	Major	80'	55
256	Jamboree Road	Walnut Avenue to Michelle Drive	Major	84'	55
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	Major	100'	55
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	Major	84'	55
259	Jamboree Road	Main Street to Kelvin Avenue	Major	100'	55
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	Major	110'	55
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	Major	100'	55
262	Jamboree Road	McGaw Avenue to Alton Parkway	Major	100'	55
263	Jamboree Road	Birch Street to Campus Drive	Major	84'	55
264	Jamboree Road	Dupont Drive to Michelson Drive	Major	80'	55
265	Jamboree Road	Alton Parkway to Beckman	Major	100'	55
266	Jamboree Road	Fairchild Road to Birch Street	Major	80'	55
267	Jamboree Road	Beckman to Barranca Parkway	Major	100'	55
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	Major	100'	55
269	Jamboree Road	Campus Drive to Dupont Drive	Major	80'	55
270	Jamboree Road	El Camino Real to West Drive	Major	100'	55
271	Jamboree Road	West Drive to Bryan Avenue	Major	100'	55
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	Major	100'	55
273	Jamboree Road	Koll Center to Fairchild Road	Major	80'	55

Table 1

274	Jamboree Road	MacArthur Boulevard to Koll Center	Major	80'	55
275	Jamboree Road	Irvine Boulevard to Portola Pakway	Major	84'	55
276	Jamboree Road	Warner Avenue to Edinger Avenue	Expressway	64'	55
277	Jamboree Road	Barranca Parkway to Warner Avenue	Expressway	64'	55
278	Jamboree Road	Edinger Avenue to Walnut Avenue	Expressway	64'	55
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	Major	84'	45
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	Major	80'	45
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	Major	84'	45
282	Jeffrey Road	Alton Parkway to Barranca Parkway	Major	84'	45
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	Major	84'	45
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	Major	84'	45
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	Major	84'	45
286	Jeffrey Road	Quail Creek to Alton Parkway	Major	84'	45
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	Major	84'	45
288	Jeffrey Road	Trabuco Road to Hideaway	Major	84'	45
289	Jeffrey Road	Hideaway to Bryan Avenue	Major	84'	45
290	Jeffrey Road	Roosevelt to Grove	Major	80'	45
291	Jeffrey Road	Grove to Trabuco Road	Major	80'	45
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	Major	84'	45
293	Jeffrey Road	Encore to Portola Parkway	Major	84'	45
294	Jeffrey Road	Irvine Boulevard to Encore	Major	84'	45
295	Jeronimo Road	Goodyear to Bake Parkway	Primary	63'	45
296	Jeronimo Road	Alton Parkway to Goodyear	Primary	63'	45
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	Major	84'	55
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	Primary	63'	55
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	Primary	63'	55
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	Commuter	50'	50
301	Laguna Canyon Road	Irvine Center Drive to Discovery	Primary	63'	55
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	Commuter	50'	50
303	Laguna Canyon Road	Pasteur to Alton Parkway	Primary	63'	55
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	Primary	63'	55

Table 1

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	Primary	63'	55
306	Laguna Canyon Road	Barranca Parkway to Waterworks	Primary	63'	55
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	Primary	63'	50
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	Primary	63'	50
309	Lake Forest Drive	Tesla to Bake Parkway	Major	84'	50
310	Lake Road	Alton Parkway to Barranca Parkway	Commuter	50'	25
311	Lynx	Irvine Boulevard to Astor	Commuter	38'	25
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	Major	100'	60
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	Major	100'	60
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	Major	100'	60
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	Major	84'	45
316	MacArthur Boulevard	Fairchild Road to University Drive	Major	84'	45
317	MacArthur Boulevard	Fitch to Red Hill Avenue	Major	80'	45
318	MacArthur Boulevard	Michelson Drive to Douglas	Major	100'	45
319	MacArthur Boulevard	Douglas to Campus Drive	Major	100'	45
320	MacArthur Boulevard	Skypark to Main Street	Major	80'	45
321	MacArthur Boulevard	Redhill Avenue to Skypark	Major	84'	45
322	MacArthur Boulevard	Birch Street to Jamboree Road	Major	84'	45
323	MacArthur Boulevard	Campus Drive to Birch Street	Major	100'	45
324	Main Street	Gillette Avenue to Von Karman Avenue	Major	80'	45
325	Main Street	MacArthur Boulevard to Mercantile	Major	80'	45
326	Main Street	Executive Park to MacArthur Boulevard	Major	84'	45
327	Main Street	Von Karman Avenue to Cartwright	Major	84'	45
328	Main Street	McDurmott to Red Hill Avenue	Major	84'	45
329	Main Street	Red Hill Avenue to Executive Circle	Major	84'	45
330	Main Street	Jamboree Road to Union	Major	84'	45
331	Main Street	Culver Drive to West Yale Loop	Primary	63'	45
332	Main Street	Siglo to Jamboree Road	Major	84'	45
333	Main Street	Veneto to Harvard Avenue	Major	84'	45
334	Main Street	Paseo Westpark to Culver Drive	Primary	63'	45
335	Main Street	Harvard Avenue to San Mateo	Primary	63'	45

Table 1

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	Commuter	50'	40
337	Marine Way	Alton Parkway to Bake Parkway	Primary	63'	40
338	Marine Way	Lynx to Barranca Parkway	Primary	63'	40
339	Marine Way	County Access to Treble	Primary	63'	40
340	Marine Way	Ridge Valley (O Street) to Skyhawk	Primary	63'	40
341	Marine Way	Skyhawk to County Access	Primary	63'	40
342	Marine Way	Barranca Parkway to Alton Parkway	Primary	63'	40
343	Marine Way	Treble to Lynx	Primary	63'	40
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	Primary	63'	35
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	Primary	63'	35
346	McGaw Avenue	Daimler to Red Hill Avenue	Primary	63'	35
347	McGaw Avenue	Jamboree Road to Murphy Avenue	Primary	63'	35
348	Meadowood	Culver Drive to Canyonwood	Primary	63'	25
349	Meridian	Spectrum to Alton Parkway	Primary	63'	30
350	Meridian	Alton Parkway to Gateway Boulevard	Primary	63'	30
351	Merit	Irvine Boulevard to Cadence	Commuter	38'	25
352	Michelson Drive	Riparian to Harvard Avenue	Primary	63'	40
353	Michelson Drive	Almond Tree Lane to Yale Avenue	Commuter	38'	40
354	Michelson Drive	Von Karman Avenue to Obsidian	Primary	63'	40
355	Michelson Drive	Parkside to Culver Drive	Primary	63'	40
356	Michelson Drive	Gillman to Seton/Sandburg Way	Commuter	38'	40
357	Michelson Drive	Carlson to Prince	Primary	75'	40
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	Primary	63'	40
359	Michelson Drive	Harvard Avenue to Parkside	Primary	63'	40
360	Michelson Drive	Bixby to Von Karman Avenue	Primary	63'	40
361	Michelson Drive	Jamboree Road to Carlson	Primary	60'	40
362	Michelson Drive	Teller to Jamboree Road	Primary	60'	40
363	Michelson Drive	Jordan East to University Drive	Secondary	30'	40
364	Michelson Drive	Culver Drive to Angell	Primary	40'	40
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	Commuter	30'	45
366	Modjeska (A Street)	South of Irvine Boulevard	Commuter	38'	45

Table 1

367	Muirlands Boulevard	Bake Parkway to City Limits	Primary	63'	45
368	Muirlands Boulevard	Alton Parkway to Sterling	Primary	63'	45
369	Muirlands Boulevard	Wrigley to Bake Parkway	Primary	63'	45
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	Primary	63'	40
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	Primary	63'	40
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	Primary	63'	30
373	Northwood	Yale Avenue to Savannah	Commuter	38'	35
374	Northwood	Goldrush to Yale Avenue	Commuter	38'	35
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	Commuter	38'	45
376	Pacifica	Gateway to Barranca Parkway	Primary	63'	40
377	Pacifica	Alton Parkway to Gateway	Primary	63'	40
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	Primary	63'	40
379	Pacifica	Meridian to Alton Parkway	Primary	63'	40
380	Park Place	Christamon South to Yale Avenue	Primary	63'	30
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	Primary	63'	55
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	Primary	63'	55
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	Primary	63'	55
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	Primary	63'	55
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	Primary	63'	55
386	Portola Parkway	Gatepark to Culver Drive	Major	84'	55
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	Major	84'	55
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	Major	84'	55
389	Portola Parkway	Jamboree Road to Bellevue	Major	84'	55
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	Major	84'	55
391	Portola Parkway	Yale Avenue to Jeffrey Road	Major	84'	55
392	Portola Parkway	Culver Drive to Yale Avenue	Major	84'	55
393	Portola Parkway	Silverado to Portola Springs	Primary	63'	55
394	Pusan	Irvine Boulevard to Cadence	Commuter	38'	25
395	Quail Hill Parkway	Shady Canyon Drive to Passage	Primary	63'	45
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	Primary	63'	45
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	Primary	40'	25

Table 1

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	Major	84'	50
399	Red Hill Avenue	I-405 Over Crossing to Main Street	Primary	63'	50
400	Red Hill Avenue	Alton Parkway to Deere Avenue	Major	84'	50
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	Major	84'	50
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	Major	84'	50
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	Primary	60'	50
404	Red Hill Avenue	Main Street to Skypark East	Primary	60'	50
405	Research Drive	Hubble to Bake Parkway	Primary	63'	45
406	Research Drive	Scientific to Lake Forest Drive	Primary	63'	45
407	Research Drive	Bake Parkway to Muller	Primary	63'	45
408	Research Drive	Irvine Center Drive to Bunsen	Primary	63'	45
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	Primary	63'	45
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	Primary	63'	45
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	Primary	63'	45
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	Commuter	38'	45
413	Ridgeline Drive	Concordia East to University Drive	Secondary	40'	35
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	Secondary	40'	35
415	Rockfield Avenue	Whatney to McLaren	Primary	63'	45
416	Rockfield Avenue	Bake Parkway to Whatney	Primary	63'	45
417	Rockfield Avenue	Thomas to Bake Parkway	Primary	63'	45
418	Roosevelt	Jeffrey Road to Vision	Primary	63'	40
419	Roosevelt	Yale Avenue to Van Buren	Commuter (Divided)	30'	40
420	Roosevelt	Vision to Bay Tree	Primary	63'	40
421	Roosevelt	Nimitz to Jeffrey Road	Primary	63'	40
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	Primary	63'	40
423	Royal Oak	Alton Parkway to Eaglecreek	Commuter (Divided)	30'	35
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	Major	84'	50
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	Major	84'	50
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	Primary	60'	50
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	Major	80'	50
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	Major	100'	50

Table 1

429	Sand Canyon Avenue	Trabuco Road to Towngate	Major	84'	50
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	Major	84'	50
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	Major	100'	50
432	Sand Canyon Avenue	Hospital to Barranca Parkway	Major	84'	50
433	Sand Canyon Avenue	Nightmist to Roosevelt	Major	100'	50
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	Primary	60'	50
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	Major	100'	50
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	Major	84'	50
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	Major	84'	50
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	Primary	63'	50
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	Major	100'	50
440	Sand Canyon Avenue	Alton Parkway to Hospital	Major	80'	50
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	Primary	60'	50
442	Scientific Way	Irvine Center Drive to Wald	Primary	63'	35
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	Commuter	38'	50
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	Commuter	50'	50
445	Skyhawk	Great Park Boulevard to Marine Way	Primary	63'	25
446	Southwood	Yale Avenue to Colt	Commuter	38'	35
447	Southwood	Challenger to Yale Avenue	Commuter	38'	35
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	Primary	63'	30
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	Primary	63'	30
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	Primary	63'	25
451	Technology Drive	Barranca Parkway to Alton Parkway	Primary	63'	45
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	Primary	63'	45
453	Technology Drive	I-5/SR-133 to Barranca Parkway	Primary	63'	45
454	Technology Drive	Ada to Alton Parkway	Primary	63'	45
455	Toledo Way	Bake Parkway to City Limits	Primary	63'	50
456	Toledo Way	Goodyear to Bake Parkway	Primary	63'	50
457	Toledo Way	Alton Parkway to Parker	Primary	63'	50
458	Trabuco Road	Keystone to Sand Canyon Avenue	Primary	63'	45
459	Trabuco Road	Jeffrey Road to Keystone	Primary	63'	45

Table 1

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	Primary	63'	45
461	Trabuco Road	Monroe to Yale Avenue	Primary	63'	45
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	Primary	63'	45
463	Trabuco Road	Yale Avenue to Remington	Primary	63'	45
464	Trabuco Road	Remington to Jeffrey Road	Primary	63'	45
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	Primary	63'	45
466	Turtle Rock Drive	Ridgeline to Willowleaf	Commuter	38'	45
467	Turtle Rock Drive	Silkwood to Sunnyhill	Commuter	38'	45
468	Turtle Rock Drive	Canyon Park to Ridgeline	Commuter	38'	45
469	Turtle Rock Drive	Sunnyhill to Southernwood	Commuter	38'	45
470	Turtle Rock Drive	Campus Drive to Hillgate	Primary	63'	45
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	Secondary	40'	45
472	University Drive	Golden Glow to Yale Avenue	Primary	63'	50
473	University Drive	Ridgeline to Michelson Drive	Primary	75'	50
474	University Drive	Culver Drive to Golden Glow	Primary	63'	50
475	University Drive	Yale Avenue to Ridgeline	Primary	63'	50
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	Major	84'	50
477	University Drive	Mesa to Campus Drive	Primary	60'	50
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	Primary	60'	50
479	University Drive	California Avenue to Mesa	Primary	60'	50
480	University Drive	Campus Drive to Harvard Avenue	Major	84'	50
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	Major	50'	50
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	Major	84'	50
483	University Drive	San Joaquin to Culver Drive	Major	84'	50
484	University Drive	Harvard Avenue to San Joaquin	Major	84'	50
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	Primary	63'	50
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	Commuter	50'	50
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	Primary	63'	50
488	Valley Oak Drive	Alton Parkway to Hawkcreek	Primary	63'	50
489	Von Karman Avenue	Marriott to Morse Avenue	Primary	63'	45
490	Von Karman Avenue	Michelson Drive to Quartz	Primary	63'	45

Table 1

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	Primary	63'	45
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	Primary	75'	45
493	Von Karman Avenue	Main Street to Anchor	Primary	63'	45
494	Von Karman Avenue	Anchor to McGaw Avenue	Primary	63'	45
495	Von Karman Avenue	Morse to Main Street	Primary	63'	45
496	Von Karman Avenue	Martin to Dupont Drive	Primary	63'	45
497	Von Karman Avenue	Campus Drive to Martin	Primary	63'	45
498	Von Karman Avenue	Dupont Drive to Michelson Drive	Primary	63'	45
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	Primary	63'	45
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	Primary	63'	45
501	Walnut Avenue	The Mall Street to Culver Drive	Primary	63'	45
502	Walnut Avenue	Harvard Avenue to The Mall Street	Primary	63'	45
503	Walnut Avenue	Franciscan Street to Ravenwood Street	Primary	63'	45
504	Walnut Avenue	Ravenwood Street to Yale Avenue	Primary	63'	45
505	Walnut Avenue	Culver Drive to Franciscan Street	Primary	63'	45
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	Major	84'	45
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	Major	84'	45
508	Walnut Avenue	Yale Avenue to Kazan Street	Primary	63'	45
509	Walnut Avenue	Wisteria to Jeffrey Road	Primary	63'	45
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	Primary	63'	45
511	Warner Avenue	Construction North to Harvard Avenue	Primary	63'	45
512	Warner Avenue	Harvard Avenue to Paseo Westpark	Primary	63'	45
513	Warner Avenue	Santa Ynez to Culver Drive	Primary	63'	45
514	Warner Avenue	Culver Drive to West Yale Loop	Primary	63'	45
515	West Yale Loop	Alton Parkway to Blue Lake North	Primary	63'	40
516	West Yale Loop	Eagle Run to Main Street	Primary	63'	40
517	West Yale Loop	Thunder Run to Yale Avenue	Primary	63'	40
518	West Yale Loop	Main Street to Timber Run	Primary	63'	40
519	West Yale Loop	Yale Avenue to Shorebird	Primary	63'	40
520	West Yale Loop	Warner Avenue to Stonecreek South	Primary	63'	40
521	West Yale Loop	Barranca Parkway to Alton Parkway	Primary	63'	40

Table 1

522	West Yale Loop	Stonecreek North to Warner Avenue	Primary	63'	40
523	West Yale Loop	Birdsong to Barranca Parkway	Primary	63'	40
524	Westwood	Yorktown to Bryan Avenue	Commuter	38'	35
525	Westwood	Bryan Avenue to Leaf	Commuter	38'	35
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	Commuter	38'	45
527	Yale Avenue	Hicks Canyon Drive to Meadowood	Commuter	38'	45
528	Yale Avenue	Walnut Avenue to Roosevelt	Secondary	40'	45
529	Yale Avenue	Roosevelt to Trabuco Road	Primary	63'	45
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	Primary	63'	45
531	Yale Avenue	West Yale Loop to Irvine Center Drive	Primary	63'	45
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	Primary	63'	45
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	Primary	63'	45
534	Yale Avenue	Trabuco Road to Southwood	Primary	63'	45
535	Yale Avenue	Southwood to Bryan Avenue	Primary	63'	45
536	Yale Avenue	Northwood to Irvine Boulevard	Primary	63'	45
537	Yale Avenue	Bryan Avenue to Monticello	Primary	63'	45
538	Yale Avenue	Irvine Boulevard to Park Place	Primary	63'	45
539	Yale Avenue	University Drive to Royce	Commuter	50'	45
540	Yale Court	Arborwood to Portola Parkway	Commuter	38'	25

[1] City of Irvine General Plan.

[2] Based upon the right-of-way distances for each roadway classification provided in the General Plan and Project Traffic Report.

Table 2: Average Daily Traffic Volumes

ID	Roadway	Segment	Average Daily Traffic Volumes[1]					
			Existing	Current General Plan	Conservative	Cumulative Conservative	Preferred	Muulative Preferred
1	Ada	Barranca Parway to Marine Way	0	0	23,114	23,117	23,050	23,050
2	Ada	Alton Parkway to Barranca PArkway	4,000	19,232	31,726	31,720	31,443	31,284
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	42,200	56,884	81,472	81,648	76,615	76,734
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	45,900	60,594	86,184	86,442	80,851	80,974
5	Alton Parkway	East Yale Loop to Jeffrey Road	29,100	30,534	32,626	32,830	32,166	32,275
6	Alton Parkway	Gateway Boulevard to Enterprise	26,800	35,234	49,611	49,714	46,610	46,790
7	Alton Parkway	Jeffrey Road to Royal Oak	22,000	23,495	26,386	26,627	25,401	25,682
8	Alton Parkway	Daimler Street to Red Hill Avenue	5,000	23,780	25,087	25,127	24,851	24,892
9	Alton Parkway	Culver Drive to West Yale Loop	23,600	24,362	25,096	25,181	24,627	24,826
10	Alton Parkway	West Yale Loop to Lake Road	23,100	23,892	25,022	25,249	24,512	24,661
11	Alton Parkway	Technology Drive West to Ada	29,800	39,191	52,329	52,629	49,987	49,944
12	Alton Parkway	Creek Road to East Yale Loop	22,100	23,067	24,792	24,987	24,159	24,400
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	13,900	21,216	24,224	24,832	23,510	24,050
14	Alton Parkway	Lake Road to Creek Road	21,800	22,890	23,527	23,753	22,987	23,143
15	Alton Parkway	Telemetry to Banting	17,100	20,313	23,656	23,832	23,191	23,349
16	Alton Parkway	Irvine Boulevard to Commercentre	33,800	39,324	37,812	38,199	38,024	38,497
17	Alton Parkway	Jenner to Telemetry	17,000	20,130	23,298	23,455	22,846	22,981
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	22,900	30,165	41,786	42,235	39,281	39,393
19	Alton Parkway	Sand Canyon Avenue to Hospital	26,100	36,781	36,925	37,175	37,094	37,269
20	Alton Parkway	Laguna Canyon Road to Jenner	17,000	19,926	22,824	22,971	22,385	22,495
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	25,800	34,162	41,377	41,733	37,771	38,222
22	Alton Parkway	Royal Oak to Valley Oak Drive	18,800	20,001	21,871	22,072	21,298	21,595
23	Alton Parkway	Banting to Pacifica	14,800	18,390	21,569	21,772	21,046	21,170
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	32,200	33,762	39,021	39,264	33,513	33,780
25	Alton Parkway	Ada to Technology Drive East	26,200	32,909	36,707	36,976	33,970	33,965
26	Alton Parkway	Von Karman Avenue to Jamboree Road	15,900	17,845	20,273	20,473	19,636	19,836
27	Alton Parkway	Jeronimo Road to Hughes	29,900	30,838	30,649	30,700	31,395	31,395
28	Alton Parkway	Hughes to Morgan	28,300	29,010	29,715	29,715	29,715	29,715
29	Alton Parkway	Morgan to Toledo Way	23,900	24,745	25,331	25,439	25,095	25,095
30	Alton Parkway	San Marino to Culver Drive	23,900	24,868	25,956	26,151	25,417	25,692

Table 2

31	Alton Parkway	Jamboree Road to Murphy Avenue	20,000	22,978	25,156	26,387	24,653	25,799
32	Alton Parkway	Hospital to Laguna Canyon Road	18,700	22,303	25,499	25,755	24,790	25,005
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	20,500	22,026	24,321	24,481	23,843	24,016
34	Alton Parkway	Murphy Avenue to Harvard Avenue	20,300	22,029	24,016	25,087	23,566	24,679
35	Alton Parkway	Foster to Irvine Boulevard	19,700	24,872	23,305	23,532	23,154	23,362
36	Alton Parkway	Fairbanks to Foster	17,800	23,257	22,341	22,575	21,916	22,132
37	Alton Parkway	Toledo Way to Bertea	20,800	21,840	21,840	21,840	21,840	21,840
38	Alton Parkway	Pacifica to Meridian	14,800	18,738	23,324	23,780	22,678	22,898
39	Alton Parkway	Bertea to Fairbanks	20,300	21,315	21,315	21,315	21,315	21,315
40	Alton Parkway	Meridian to Irvine Center Drive	14,400	17,783	21,018	21,241	20,601	20,652
41	Alton Parkway	Paseo Westpark to San Marino	19,400	19,914	21,047	21,248	20,504	20,780
42	Alton Parkway	Harvard Avenue to Paseo Westpark	15,500	16,294	18,516	19,161	17,861	18,451
43	Astor	Lynx to Fairbanks	2,200	19,138	19,799	20,000	19,393	19,506
44	Astor	Cadence to Lynx	0	15,633	14,995	15,144	14,767	14,820
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	71,500	91,457	98,304	98,423	95,631	95,791
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	58,900	60,885	62,986	63,562	61,319	61,823
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	61,900	66,745	67,539	67,848	66,285	66,605
48	Bake Parkway	Jeronimo Road to Toledo Way	48,500	49,574	51,196	51,605	49,538	49,866
49	Bake Parkway	Toledo Way to Cromwell	44,900	45,682	46,627	46,916	45,757	46,021
50	Bake Parkway	Cromwell to Irvine Boulevard	43,400	45,725	45,084	45,418	45,473	45,675
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	22,100	26,918	28,944	29,328	28,172	28,545
52	Bake Parkway	Irvine Center Drive to Research Drive	8,000	9,085	9,673	10,154	9,545	9,944
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	4,900	6,286	6,866	7,404	6,811	7,379
54	Banting	Alton Parkway to Barranca Parkway	3,000	4,452	5,569	5,549	5,427	5,367
55	Barranca Parkway	Pacifica to Irvine Center Drive	19,100	24,831	36,132	36,249	34,247	34,481
56	Barranca Parkway	Banting to Pacifica	19,900	25,806	32,152	32,424	31,312	31,533
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	16,200	20,598	33,565	33,665	31,030	31,208
58	Barranca Parkway	Technology Drive West to Ada	18,700	23,700	31,332	31,494	30,409	30,730
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	14,300	20,207	30,796	30,886	28,916	29,070
60	Barranca Parkway	Culver Drive to West Yale Loop	26,400	26,675	28,434	28,530	27,904	28,213
61	Barranca Parkway	East Yale Loop to Jeffrey Road	24,700	25,229	28,062	28,336	27,289	27,535
62	Barranca Parkway	West Yale Loop to Lake Road	24,500	25,495	27,146	27,246	26,674	26,880
63	Barranca Parkway	Ada to Alton Parkway	17,800	28,456	27,638	27,756	26,859	27,022
64	Barranca Parkway	Lake Road to Creek Road	22,400	23,501	25,488	25,599	24,910	25,130
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	35,300	44,978	48,793	49,503	47,771	48,369

Table 2

66	Barranca Parkway	Discovery/Herchel to Banting	15,900	21,685	24,618	24,817	24,148	24,373
67	Barranca Parkway	Lyon to East Yale Loop	21,300	21,895	24,159	24,364	23,579	23,735
68	Barranca Parkway	Creek Road to Lyon	20,900	21,564	23,764	23,971	23,163	23,344
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	31,400	38,982	42,548	42,568	41,461	41,730
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	12,000	19,260	21,751	21,968	20,188	20,369
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	35,200	36,440	39,468	40,050	38,551	39,026
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	13,700	18,496	20,139	20,406	19,557	19,863
73	Barranca Parkway	Jamboree Road to Construction Circle	25,500	29,130	32,282	32,325	31,326	31,487
74	Barranca Parkway	Santa Rosa to Culver Drive	23,600	28,283	31,019	31,498	30,197	30,840
75	Barranca Parkway	FedEx to Discovery/Herchel	12,800	15,244	19,005	19,158	17,670	17,901
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	11,500	15,857	18,482	18,899	17,571	17,889
77	Barranca Parkway	Laguna Canyon Road to FedEx	12,700	14,848	18,440	18,600	17,200	17,450
78	Barranca Parkway	Pullman Street to Red Hill Avenue	30,500	36,153	38,000	37,853	37,452	37,245
79	Barranca Parkway	Construction Circle to Fire Station	21,600	25,175	28,462	28,571	27,431	27,622
80	Barranca Parkway	Fire Station to Harvard Avenue	21,600	25,175	28,462	28,571	27,431	27,622
81	Barranca Parkway	Paseo Westpark to Santa Rosa	21,000	25,294	28,055	28,602	27,241	27,925
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	20,500	23,160	25,884	26,663	25,071	25,798
83	Bay Tree	Trabuco Road to Roosevelt	2,100	2,723	2,675	2,681	2,742	2,720
84	Beacon	Ridge Valley to Benchmark	0	3,119	3,586	3,641	3,509	3,587
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0	1,829	1,728	1,729	1,745	1,743
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	20,400	26,221	25,685	26,007	25,773	26,152
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	29,100	30,318	30,850	30,956	30,737	30,797
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	16,400	20,645	20,798	20,905	20,728	20,746
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	16,400	18,987	19,217	19,301	19,103	19,113
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	16,400	17,778	18,311	18,474	18,113	18,182
91	Bosque	Cadence to Great Park Boulevard	7,700	11,850	12,852	12,932	12,836	12,864
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	3,600	7,686	8,905	8,882	8,601	8,621
93	Bosque	Benchmark to Cadence	3,600	7,750	8,135	8,107	7,908	7,923
94	Bosque	Great Park Boulevard to Beacon	0	1,880	1,844	1,843	1,828	1,837
95	Bosque	Beacon to S 5th Street	0	1,524	1,609	1,609	1,591	1,592
96	Bryan Avenue	Jamboree Road to Market Place	20,700	21,684	22,410	22,671	21,962	22,217
97	Bryan Avenue	Market Place to El Camino Real	20,700	21,735	21,846	21,480	21,600	21,675
98	Bryan Avenue	Rubicon to Culver Drive	20,700	21,735	21,397	21,726	21,545	21,708
99	Bryan Avenue	El Camino Real to Rubicon	20,700	21,735	21,246	21,533	21,404	21,532
100	Bryan Avenue	Eastwood to Jeffrey Road	10,600	11,981	14,512	14,724	13,773	14,067

Table 2

101	Bryan Avenue	Westwood to Yale Avenue	11,900	12,001	13,258	13,412	12,845	12,963
102	Bryan Avenue	Culver Drive to Westwood	11,900	12,292	13,038	13,139	12,666	12,769
103	Bryan Avenue	Yale Avenue to Eastwood	10,600	11,130	13,028	13,268	12,224	12,526
104	Cadence	Pusan to Chinon	5,500	4,989	7,071	7,074	6,990	7,014
105	Cadence	Bosque to Pusan	7,100	5,049	6,542	6,540	6,549	6,558
106	Cadence	Ridge Valley (O Street) to Bosque	3,500	4,822	4,909	4,864	4,745	4,749
107	Cadence	Chinon to Merit	3,500	1,575	3,298	3,333	3,194	3,233
108	Cadence	Merit to Astor	0	1,397	1,698	1,688	1,700	1,697
109	California Avenue	University Drive to Academy Way	10,000	15,529	15,758	20,000	15,819	19,919
110	California Avenue	Campus Drive to Harvard Avenue	7,800	9,756	9,868	9,868	9,927	9,803
111	California Avenue	Theory to Bison Avenue	7,600	9,438	9,160	9,414	9,277	9,378
112	Campus Drive	Carlson Avenue to University Drive	17,000	27,465	28,942	29,529	28,558	29,153
113	Campus Drive	University Drive to Bridge Road	22,200	31,499	32,687	32,395	32,269	31,999
114	Campus Drive	Jamboree Road to Carlson Avenue	17,000	28,851	30,504	31,090	30,078	30,629
115	Campus Drive	Stanford Court to Berkeley Avenue	22,200	27,338	27,642	27,465	27,506	27,357
116	Campus Drive	California Avenue to Culver Drive	16,500	26,438	26,572	26,506	26,527	26,405
117	Campus Drive	Berkeley Avenue to Cornell	16,500	21,044	21,468	21,170	21,299	21,031
118	Campus Drive	Martin to Von Karman Avenue	12,100	15,957	17,343	17,979	16,910	17,561
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	15,100	15,713	16,048	16,071	15,918	15,896
120	Campus Drive	Von Karman Avenue to Teller Avenue	10,300	13,785	14,824	15,306	14,558	15,040
121	Campus Drive	MacArthur Boulevard to Martin	12,100	13,788	14,285	14,566	14,164	14,413
122	Campus Drive	Teller Avenue to Jamboree Road	10,300	11,365	12,126	12,374	11,947	12,202
123	Carlson Avenue	Michelson Drive to Campus Drive	6,000	13,044	13,241	13,352	13,196	13,323
124	Chinon	Irvine Boulevard to Cadence	2,700	4,025	4,470	4,475	4,756	4,756
125	Creek Road	Alton Parkway to Barranca Parkway	3,900	4,622	4,907	4,892	4,726	4,796
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	53,900	58,147	61,300	61,019	61,011	60,961
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	53,900	60,031	59,960	59,692	59,757	59,836
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	57,400	60,471	60,969	61,103	60,773	60,896
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	57,400	60,310	59,474	59,478	59,917	59,899
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	53,900	57,001	56,487	56,681	56,621	56,751
131	Culver Drive	San Leandro to Main Street	51,500	53,202	53,021	52,972	53,104	53,116
132	Culver Drive	Harvard Avenue to University Drive	46,300	52,683	53,377	53,363	53,257	53,212
133	Culver Drive	Trabuco Road to Farwell Avenue	57,400	61,294	59,213	59,139	59,765	59,466
134	Culver Drive	Alton Parkway to Barranca Parkway	47,600	51,629	51,504	51,467	51,477	51,527
135	Culver Drive	Main Street to Alton Parkway	46,400	50,144	49,818	50,023	50,071	50,100

Table 2

136	Culver Drive	Warner Avenue to Irvine Center Drive	45,500	48,921	48,908	49,242	48,906	49,101
137	Culver Drive	Walnut Avenue to Scottsdale Dive	44,800	48,508	47,641	47,556	48,151	48,057
138	Culver Drive	Barranca Parkway to Warner Avenue	44,700	47,184	47,548	47,883	47,408	47,820
139	Culver Drive	Shady Canyon Drive to Palo Verde	23,100	27,206	26,474	26,477	26,657	26,587
140	Culver Drive	Deerfield Avenue to Walnut Avenue	41,700	44,819	44,116	44,131	44,374	44,310
141	Culver Drive	Sandburg Way to Michelson Drive	38,000	43,901	44,200	44,162	44,140	44,084
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	39,600	43,101	43,037	43,318	42,966	43,249
143	Culver Drive	Palo Verde to Campus Drive	23,100	24,255	24,255	24,255	24,255	24,255
144	Culver Drive	University Drive to Sandburg Way	34,900	40,605	40,878	40,821	40,840	40,762
145	Culver Drive	Farwell Avenue to Bryan Avenue	43,200	47,503	46,710	46,846	46,881	46,855
146	Culver Drive	Campus Drive to High School	35,900	40,178	39,825	40,099	39,865	40,109
147	Culver Drive	High School to Harvard Avenue	35,900	39,525	39,094	39,155	39,227	39,343
148	Culver Drive	Bryan Avenue to Florence	34,500	37,270	37,153	37,248	37,221	37,291
149	Culver Drive	Portola Parkway to Settlers	13,100	21,591	22,169	22,400	21,951	22,133
150	Culver Drive	Florence to Irvine Boulevard	33,600	36,440	36,281	36,395	36,398	36,478
151	Culver Drive	Irvine Boulevard to Viewpark	24,500	27,912	27,782	27,820	27,898	27,880
152	Culver Drive	Viewpark to Meadowood	24,500	27,661	26,857	26,773	27,143	27,007
153	Culver Drive	Settlers to Furrow	0	11,425	11,930	12,153	11,730	11,905
154	Culver Drive	Meadowood to Portola Parkway	16,700	19,435	19,384	19,447	19,462	19,491
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	1,700	8,932	13,332	13,351	9,370	9,390
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0	4,423	8,636	8,669	4,968	5,001
157	East Yale Loop	Alton Parkway to Witherspoon	10,900	12,625	13,590	13,632	13,294	13,347
158	East Yale Loop	Osborn Street to Barranca Parkway	10,200	11,855	12,938	12,986	12,601	12,680
159	East Yale Loop	Yale Avenue to Springbrook South	6,400	10,084	11,895	11,997	11,442	11,525
160	East Yale Loop	Springbrook North to Alton Parkway	6,400	8,140	8,574	8,626	8,475	8,506
161	East Yale Loop	Woodspring to Yale Avenue	6,400	6,731	7,199	7,261	7,005	7,059
162	East Yale Loop	Barranca Parkway to Eastshore	6,400	6,747	6,524	6,685	6,576	6,558
163	Eastwood	Bryan Avenue to Monticello	2,400	2,973	3,241	3,260	3,185	3,212
164	Eastwood	Columbus to Bryan Avenue	1,900	2,023	2,011	2,057	1,983	2,017
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	18,500	18,775	19,398	19,548	19,240	19,372
166	El Camino Real North	El Camino Real to Bryan Avenue	6,200	6,510	6,553	6,459	6,482	6,466
167	Fairbanks	Alton Parkway to Astor	2,600	18,025	18,614	18,795	18,127	18,297
168	Fairbanks	Irvine Boulevard to Alton Parkway	0	9,256	9,466	9,507	9,449	9,527
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	6,000	7,074	7,081	7,094	7,131	7,094
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	3,800	14,311	17,010	16,817	15,949	15,953

Table 2

171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	6,600	10,892	12,678	12,537	12,089	12,135
172	Gateway Boulevard	Irvine Center Drive to Meridian	3,600	5,160	6,270	6,264	6,154	6,204
173	Great Park Boulevard	Sand Canyon to Ridge Valley	18,000	41,232	45,507	45,662	44,334	44,530
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	5,400	20,241	23,162	23,409	22,427	22,566
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0	7,039	8,824	9,050	8,353	8,512
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0	6,351	7,648	7,680	7,471	7,517
177	Harvard Avenue	University Drive to Michelson Drive	19,000	21,732	22,851	23,172	22,728	23,043
178	Harvard Avenue	Michelson Drive to Coronado	24,800	29,191	31,028	31,339	30,921	31,293
179	Harvard Avenue	San Marino to Alton Parkway	24,500	27,906	29,121	29,801	28,966	29,486
180	Harvard Avenue	Coronado to Main Street	24,000	28,017	28,811	29,155	28,783	29,124
181	Harvard Avenue	San Carlo to San Marino	24,500	27,164	28,438	29,022	28,293	28,700
182	Harvard Avenue	Main Street to San Carlo	24,000	26,657	27,916	28,489	27,778	28,170
183	Harvard Avenue	Alton Parkway to San Leon	20,000	21,000	21,000	20,284	21,000	20,344
184	Harvard Avenue	San Juan to Barranca Parkway	20,000	20,509	21,000	20,554	21,000	20,616
185	Harvard Avenue	San Leon to San Juan	19,200	20,160	20,160	20,160	20,160	20,160
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	10,000	15,559	15,757	15,703	15,465	15,471
187	Harvard Avenue	Deerfield Avenue to Poplar Street	10,000	15,473	15,478	15,436	15,200	15,226
188	Harvard Avenue	Barranca Parkway to Warner Avenue	16,300	17,075	17,135	17,252	17,010	17,230
189	Harvard Avenue	Bridge Road to University Drive	14,800	15,962	17,144	16,993	16,880	16,811
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	11,400	16,630	17,007	16,907	16,982	16,894
191	Harvard Avenue	Poplar Street to Walnut Avenue	8,600	13,344	13,653	13,736	13,278	13,424
192	Harvard Avenue	California Avenue to Berkeley Avenue	11,400	14,000	15,232	15,147	14,831	14,793
193	Harvard Avenue	Culver Drive to California Avenue	11,400	13,746	14,994	14,914	14,731	14,558
194	Harvard Avenue	Berkeley to Bridge Road	11,400	14,010	14,544	14,559	14,456	14,466
195	Harvard Avenue	Warner Avenue to Paseo Westpark	11,000	13,408	13,236	13,284	13,282	13,352
196	Hicks Canyon Drive	Delamesa to Yale Avenue	2,200	2,310	2,210	2,212	2,206	2,209
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0	3,316	3,346	3,323	3,383	3,393
198	Hubble	Irvine Center Drive to Bunsen	2,100	2,224	2,322	2,420	2,333	2,425
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	40,100	42,105	41,249	41,517	42,105	42,105
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	39,100	41,055	40,804	41,000	41,055	40,173
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	43,500	45,675	44,645	45,181	45,675	45,675
202	Irvine Boulevard	Merit to Alton	34,100	35,805	35,805	35,805	35,805	35,805
203	Irvine Boulevard	Journey to Sand Canyon Avenue	34,200	35,910	35,381	36,637	35,506	36,360
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	30,700	32,235	32,010	32,240	32,235	31,486
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	29,600	31,080	31,080	31,080	31,080	31,080

Table 2

206	Irvine Boulevard	Palo Lado to Yale Avenue	27,100	28,118	32,776	33,664	31,566	32,379
207	Irvine Boulevard	Culver Drive to Palo Lado	27,400	28,495	32,471	33,323	31,307	32,081
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	27,700	28,294	31,500	32,007	30,683	31,115
209	Irvine Boulevard	Old Myford Road to Market Place	26,500	27,891	31,742	32,352	30,767	31,303
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	27,900	28,773	32,088	32,429	30,546	30,785
211	Irvine Boulevard	Jamboree Road to Old Myford Road	26,500	27,513	31,090	31,680	30,131	30,658
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	26,400	27,325	30,908	31,554	30,014	30,542
213	Irvine Boulevard	Jeffrey Road to Groveland	28,300	29,715	30,376	32,022	29,333	30,798
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	23,800	30,011	27,916	28,197	28,433	28,721
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to Jeffrey Road	26,000	27,709	29,006	29,427	28,495	28,654
216	Irvine Boulevard	Chinon (B Street) to Merit	26,100	27,405	27,405	27,405	27,405	27,405
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	25,300	26,097	28,240	28,707	27,539	27,914
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	24,300	25,190	27,469	28,114	26,740	27,208
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	24,300	25,057	27,285	27,924	26,562	27,027
220	Irvine Boulevard	Modjeska to Pusan Way	24,800	26,040	26,040	26,040	26,040	26,040
221	Irvine Boulevard	Central Park Avenue to Culver Drive	22,100	22,685	24,480	24,842	24,022	24,271
222	Irvine Boulevard	Parker to Bake Parkway	19,400	22,409	22,659	22,962	22,245	22,781
223	Irvine Boulevard	Alton Parkway to Fairbanks	17,100	17,955	17,955	17,955	17,955	17,955
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	38,500	51,275	52,889	53,953	51,614	52,865
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	29,100	43,698	49,786	50,142	47,747	48,280
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	35,200	46,454	47,340	48,675	46,681	48,133
227	Irvine Center Drive	Irvine Valley College to Orange Tree	29,100	42,382	48,817	49,177	46,642	47,178
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	27,700	39,987	46,104	46,660	44,165	44,870
229	Irvine Center Drive	Culver Drive to Deerwood	29,400	39,661	45,624	45,919	43,788	44,248
230	Irvine Center Drive	Deerwood to Yale Avenue	28,700	39,150	45,180	45,516	43,331	43,804
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	27,100	38,813	45,578	46,236	43,453	44,189
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	29,100	40,074	44,489	44,688	42,819	43,078
233	Irvine Center Drive	Alton Parkway to Spectrum	24,400	34,648	42,406	42,966	39,703	40,201
234	Irvine Center Drive	Spectrum to Pacifica	24,500	33,982	41,920	42,370	39,224	39,643
235	Irvine Center Drive	Hearthstone to Culver Drive	26,000	36,389	39,524	39,645	38,396	38,654
236	Irvine Center Drive	Charter to Barranca Parkway	20,500	32,888	38,843	39,266	36,432	36,795
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	29,400	33,538	35,809	35,938	35,050	35,164
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	25,500	33,656	36,722	37,251	35,060	35,691
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	20,200	31,525	36,773	37,095	35,045	35,398
240	Irvine Center Drive	Harvard Avenue to Hearthstone	26,000	31,072	33,946	34,007	32,966	33,081

Table 2

241	Irvine Center Drive	Research to Hubble	19,200	30,150	29,767	31,287	29,654	31,315
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	15,500	27,369	32,213	32,542	30,054	30,428
243	Irvine Center Drive	Bake Parkway to Muller	19,200	31,012	29,382	30,258	29,430	30,410
244	Irvine Center Drive	Discovery to Charter	16,700	26,747	32,850	33,253	30,216	30,581
245	Irvine Center Drive	Hubble to Bake Parkway	18,900	29,424	27,974	28,520	27,897	28,602
246	Irvine Center Drive	Muller to Tesla	18,400	27,797	26,678	27,303	26,594	27,299
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	18,100	25,007	27,285	27,449	25,885	26,025
248	Irvine Center Drive	Tesla to Scientific Way	16,100	26,203	24,358	25,259	24,586	25,537
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	16,400	24,631	23,241	24,211	23,463	24,377
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	14,700	21,437	23,879	24,509	22,763	23,257
251	Irvine Center Drive	Laguna Canyon Road to Discovery	15,000	20,659	24,024	24,356	22,810	23,090
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	15,200	21,273	23,977	24,191	22,449	22,690
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	28,800	37,743	39,543	40,036	38,705	39,103
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	66,500	69,825	69,825	69,825	69,825	69,825
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	73,400	77,890	81,976	82,589	80,926	81,685
256	Jamboree Road	Walnut Avenue to Michelle Drive	55,000	59,833	60,442	60,520	60,211	60,362
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	73,400	79,710	81,891	82,134	81,354	81,725
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	55,000	56,450	56,408	56,389	56,379	57,750
259	Jamboree Road	Main Street to Kelvin Avenue	61,200	67,444	70,975	71,714	70,210	70,902
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74,300	84,006	88,495	88,960	86,971	87,488
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	57,500	62,646	65,776	66,488	65,064	65,797
262	Jamboree Road	McGaw Avenue to Alton Parkway	56,700	61,804	64,955	65,760	64,320	65,261
263	Jamboree Road	Birch Street to Campus Drive	40,300	44,836	49,612	50,222	48,363	48,881
264	Jamboree Road	Dupont Drive to Michelson Drive	47,600	50,671	55,614	56,292	54,185	54,705
265	Jamboree Road	Alton Parkway to Beckman	53,900	56,746	59,192	60,116	58,506	59,551
266	Jamboree Road	Fairchild Road to Birch Street	37,500	46,728	50,815	51,524	49,498	50,091
267	Jamboree Road	Beckman to Barranca Parkway	51,700	53,974	54,823	55,530	54,535	55,555
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	50,200	52,710	52,710	52,710	52,710	52,710
269	Jamboree Road	Campus Drive to Dupont Drive	40,200	42,224	46,420	47,220	45,590	46,225
270	Jamboree Road	El Camino Real to West Drive	50,200	52,735	51,138	50,741	51,446	51,075
271	Jamboree Road	West Drive to Bryan Avenue	50,200	52,526	51,091	50,973	51,319	51,212
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	45,800	49,213	47,458	47,016	47,722	47,448
273	Jamboree Road	Koll Center to Fairchild Road	32,900	39,496	43,123	43,783	41,698	42,241
274	Jamboree Road	MacArthur Boulevard to Koll Center	34,300	39,695	42,776	43,209	41,222	41,473
275	Jamboree Road	Irvine Boulevard to Portola Pakway	24,500	29,887	29,015	28,920	29,193	29,128

Table 2

276	Jamboree Road	Warner Avenue to Edinger Avenue	83,900	85,506	87,509	87,609	87,026	87,248
277	Jamboree Road	Barranca Parkway to Warner Avenue	68,700	70,769	72,128	72,728	71,471	72,206
278	Jamboree Road	Edinger Avenue to Walnut Avenue	64,000	66,189	66,499	66,731	66,471	66,688
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	50,500	54,962	56,523	56,825	55,850	56,176
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	57,000	62,169	63,296	63,919	62,333	63,037
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	44,600	49,562	50,868	51,048	50,514	50,683
282	Jeffrey Road	Alton Parkway to Barranca Parkway	44,200	46,090	50,717	50,925	49,193	49,443
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	42,900	47,470	48,682	48,837	48,338	48,484
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	44,400	45,688	50,815	51,159	48,513	49,021
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	43,400	45,426	48,023	48,058	47,090	47,228
286	Jeffrey Road	Quail Creek to Alton Parkway	44,400	45,819	48,969	49,376	47,231	47,578
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	42,200	43,854	45,528	45,568	44,501	44,665
288	Jeffrey Road	Trabuco Road to Hideaway	35,700	38,135	37,721	38,141	37,737	38,113
289	Jeffrey Road	Hideaway to Bryan Avenue	35,700	38,018	37,668	38,123	37,660	38,065
290	Jeffrey Road	Roosevelt to Grove	37,200	40,456	41,046	41,043	40,485	40,531
291	Jeffrey Road	Grove to Trabuco Road	37,200	40,151	38,896	38,887	39,079	39,167
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	26,500	28,995	28,845	29,374	28,761	29,277
293	Jeffrey Road	Encore to Portola Parkway	10,400	16,559	15,420	14,548	15,646	14,766
294	Jeffrey Road	Irvine Boulevard to Encore	10,400	15,038	14,436	14,094	14,564	14,204
295	Jeronimo Road	Goodyear to Bake Parkway	7,700	8,433	8,085	8,085	8,085	7,959
296	Jeronimo Road	Alton Parkway to Goodyear	7,200	8,252	7,560	7,560	7,560	7,468
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	44,700	53,167	52,519	53,702	52,557	53,875
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	10,000	16,794	16,624	16,770	16,659	16,794
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	5,100	10,943	15,112	15,177	13,807	13,867
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	5,500	8,635	8,544	8,634	8,507	8,576
301	Laguna Canyon Road	Irvine Center Drive to Discovery	3,900	9,104	13,381	13,313	9,537	9,516
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	5,500	8,635	8,544	8,634	8,507	8,576
303	Laguna Canyon Road	Pasteur to Alton Parkway	6,000	8,294	8,491	8,608	8,352	8,455
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	4,700	7,050	9,487	9,469	7,386	7,346
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	5,100	6,757	7,272	7,308	6,866	6,917
306	Laguna Canyon Road	Barranca Parkway to Waterworks	4,100	6,177	7,040	7,148	6,179	6,120
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	14,500	17,913	18,642	19,408	18,345	19,173
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	14,500	17,780	18,471	19,213	18,195	18,999
309	Lake Forest Drive	Tesla to Bake Parkway	10,700	13,227	13,734	14,514	13,505	14,318
310	Lake Road	Alton Parkway to Barranca Parkway	5,800	6,127	6,179	6,204	6,138	6,144

Table 2

311	Lynx	Irvine Boulevard to Astor	0	1,330	1,254	1,244	1,253	1,246
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	51,800	57,170	61,860	62,587	60,659	61,683
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	50,300	58,639	60,715	61,233	60,198	60,713
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	48,200	57,119	59,832	60,411	59,267	59,791
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	37,900	39,795	39,795	39,795	39,795	39,795
316	MacArthur Boulevard	Fairchild Road to University Drive	37,900	38,766	39,349	39,243	39,738	39,408
317	MacArthur Boulevard	Fitch to Red Hill Avenue	40,900	41,798	42,207	42,124	41,993	41,553
318	MacArthur Boulevard	Michelson Drive to Douglas	36,200	40,849	45,005	46,388	43,680	45,212
319	MacArthur Boulevard	Douglas to Campus Drive	36,200	41,587	44,388	45,645	43,619	45,000
320	MacArthur Boulevard	Skypark to Main Street	29,800	33,703	33,157	33,482	33,051	33,180
321	MacArthur Boulevard	Redhill Avenue to Skypark	26,100	28,805	27,891	28,170	27,961	28,075
322	MacArthur Boulevard	Birch Street to Jamboree Road	18,300	19,634	20,778	21,485	20,454	21,177
323	MacArthur Boulevard	Campus Drive to Birch Street	19,400	22,000	23,178	24,205	22,933	23,909
324	Main Street	Gillette Avenue to Von Karman Avenue	32,500	38,628	45,614	46,084	44,129	44,818
325	Main Street	MacArthur Boulevard to Mercantile	32,500	36,531	39,827	40,229	39,170	39,493
326	Main Street	Executive Park to MacArthur Boulevard	24,000	26,869	28,554	28,777	28,179	28,337
327	Main Street	Von Karman Avenue to Cartwright	21,400	24,763	28,744	28,808	27,884	28,170
328	Main Street	McDurmott to Red Hill Avenue	25,300	25,767	26,403	26,518	26,239	26,342
329	Main Street	Red Hill Avenue to Executive Circle	24,000	25,362	25,874	25,974	25,766	25,776
330	Main Street	Jamboree Road to Union	22,600	24,079	24,963	25,130	24,728	24,761
331	Main Street	Culver Drive to West Yale Loop	14,100	14,805	14,634	14,660	14,523	14,599
332	Main Street	Siglo to Jamboree Road	21,400	22,387	24,271	24,322	23,884	24,041
333	Main Street	Veneto to Harvard Avenue	22,600	23,730	23,292	23,421	23,172	23,207
334	Main Street	Paseo Westpark to Culver Drive	11,600	12,180	12,007	12,129	12,180	12,068
335	Main Street	Harvard Avenue to San Mateo	11,600	11,923	11,948	11,988	12,142	11,928
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	14,400	38,752	40,895	40,977	40,411	40,541
337	Marine Way	Alton Parkway to Bake Parkway	0	29,934	33,007	33,132	31,689	31,983
338	Marine Way	Lynx to Barranca Parkway	0	32,584	32,066	32,174	32,229	32,277
339	Marine Way	County Access to Treble	3,200	12,788	26,373	26,495	25,917	26,072
340	Marine Way	Ridge Valley (O Street) to Skyhawk	5,900	21,357	25,442	25,478	24,715	24,784
341	Marine Way	Skyhawk to County Access	3,200	11,690	20,450	20,553	19,302	19,473
342	Marine Way	Barranca Parkway to Alton Parkway	700	15,956	17,902	17,922	17,824	17,909
343	Marine Way	Treble to Lynx	0	19,116	16,855	16,993	16,340	16,505
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	8,600	11,998	14,522	14,638	13,868	13,966
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	8,400	12,035	14,147	14,434	13,510	13,754

Table 2

346	McGaw Avenue	Daimler to Red Hill Avenue	6,500	9,107	9,147	9,107	9,063	9,179
347	McGaw Avenue	Jamboree Road to Murphy Avenue	3,000	4,320	4,734	4,648	4,424	4,528
348	Meadowood	Culver Drive to Canyonwood	10,400	10,920	10,920	10,668	10,920	10,920
349	Meridian	Spectrum to Alton Parkway	2,200	2,338	2,707	2,808	2,563	2,685
350	Meridian	Alton Parkway to Gateway Boulevard	1,700	1,950	2,238	2,259	2,184	2,205
351	Merit	Irvine Boulevard to Cadence	5,100	3,204	3,718	3,772	3,641	3,731
352	Michelson Drive	Riparian to Harvard Avenue	17,700	22,861	25,332	25,376	25,218	25,198
353	Michelson Drive	Almond Tree Lane to Yale Avenue	8,200	9,055	10,108	10,160	9,910	9,921
354	Michelson Drive	Von Karman Avenue to Obsidian	17,600	22,381	24,512	24,498	23,682	23,736
355	Michelson Drive	Parkside to Culver Drive	15,500	18,030	22,469	22,511	22,374	22,429
356	Michelson Drive	Gillman to Seton/Sandburg Way	8,200	8,623	9,393	9,500	9,165	9,208
357	Michelson Drive	Carlson to Prince	17,700	25,099	27,299	27,204	27,061	27,093
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	17,600	18,637	21,065	21,112	20,323	20,337
359	Michelson Drive	Harvard Avenue to Parkside	15,500	18,101	18,016	18,076	17,916	18,003
360	Michelson Drive	Bixby to Von Karman Avenue	11,600	16,064	18,167	18,256	17,607	17,647
361	Michelson Drive	Jamboree Road to Carlson	17,700	24,519	25,554	25,363	25,486	25,364
362	Michelson Drive	Teller to Jamboree Road	20,700	24,548	25,444	25,464	25,530	25,600
363	Michelson Drive	Jordan East to University Drive	6,200	6,510	6,980	6,991	6,719	6,782
364	Michelson Drive	Culver Drive to Angell	8,200	8,600	8,905	8,947	8,757	8,789
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	10,800	13,585	13,698	13,789	13,725	13,817
366	Modjeska (A Street)	South of Irvine Boulevard	2,000	1,669	1,855	1,833	1,874	1,834
367	Muirlands Boulevard	Bake Parkway to City Limits	12,200	14,592	14,718	15,023	14,376	14,807
368	Muirlands Boulevard	Alton Parkway to Sterling	11,400	11,970	11,970	11,701	11,970	11,970
369	Muirlands Boulevard	Wrigley to Bake Parkway	11,400	11,711	11,970	11,970	11,970	11,970
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	14,500	17,431	17,293	17,365	17,333	17,310
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	11,800	12,390	12,138	12,158	12,101	12,122
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	9,000	12,094	11,314	11,178	11,630	11,501
373	Northwood	Yale Avenue to Savannah	4,500	4,646	4,780	4,798	4,715	4,741
374	Northwood	Goldrush to Yale Avenue	3,000	3,628	3,802	3,833	3,773	3,801
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	6,000	7,939	13,369	13,331	12,082	12,109
376	Pacifica	Gateway to Barranca Parkway	8,100	10,905	12,617	12,784	12,406	12,565
377	Pacifica	Alton Parkway to Gateway	5,700	7,790	9,580	9,769	9,464	9,495
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	5,500	7,857	6,909	7,054	6,930	7,083
379	Pacifica	Meridian to Alton Parkway	2,400	3,742	4,572	4,576	4,476	4,479
380	Park Place	Christamon South to Yale Avenue	3,600	3,784	3,747	3,737	3,750	3,750

Table 2

381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	17,900	22,658	24,951	25,814	24,011	24,775
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	17,900	22,635	24,889	25,724	23,959	24,694
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	15,300	22,644	23,410	23,934	23,161	23,621
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	15,300	20,880	21,503	21,926	21,291	21,666
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	6,000	16,931	17,090	17,392	17,068	17,347
386	Portola Parkway	Gatepark to Culver Drive	22,700	26,146	29,312	30,092	28,306	29,181
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	22,700	26,024	28,911	29,669	27,985	28,743
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	22,700	25,264	28,023	28,810	27,082	27,901
389	Portola Parkway	Jamboree Road to Bellevue	22,700	24,960	27,703	28,532	26,830	27,621
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	22,700	24,770	27,438	28,239	26,584	27,354
391	Portola Parkway	Yale Avenue to Jeffrey Road	17,800	23,831	26,088	27,075	25,071	25,999
392	Portola Parkway	Culver Drive to Yale Avenue	17,800	21,489	22,869	23,470	22,276	22,874
393	Portola Parkway	Silverado to Portola Springs	7,600	11,969	12,134	12,381	12,067	12,310
394	Pusan	Irvine Boulevard to Cadence	1,500	2,434	2,468	2,449	2,470	2,449
395	Quail Hill Parkway	Shady Canyon Drive to Passage	15,200	15,960	15,648	15,772	15,448	15,541
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	8,500	10,254	9,734	9,762	9,917	9,900
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	1,800	1,991	2,026	2,051	1,981	1,994
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	38,200	41,924	44,982	45,998	44,189	45,131
399	Red Hill Avenue	I-405 Over Crossing to Main Street	19,700	20,812	22,560	22,980	22,062	22,478
400	Red Hill Avenue	Alton Parkway to Deere Avenue	28,000	30,843	31,869	32,372	31,427	32,238
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	26,800	29,669	31,060	31,871	30,718	31,517
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	26,700	29,582	29,932	30,440	29,672	30,497
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	16,700	19,882	21,918	22,585	21,395	21,999
404	Red Hill Avenue	Main Street to Skypark East	14,600	17,274	18,979	19,603	18,423	18,933
405	Research Drive	Hubble to Bake Parkway	9,700	24,761	25,625	25,920	24,938	25,175
406	Research Drive	Scientific to Lake Forest Drive	10,100	15,994	15,298	16,713	15,327	16,919
407	Research Drive	Bake Parkway to Muller	11,600	12,604	12,951	13,395	12,774	13,241
408	Research Drive	Irvine Center Drive to Bunsen	8,600	9,824	10,459	10,553	10,214	10,299
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	9,900	15,535	15,025	14,991	14,874	14,983
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	10,800	12,575	12,161	12,229	12,231	12,342
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	10,600	11,130	11,130	11,130	11,130	11,130
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	900	935	930	931	936	935
413	Ridgeline Drive	Concordia East to University Drive	12,600	15,575	16,232	16,267	16,053	16,070
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	12,600	14,257	15,110	15,191	14,883	14,923
415	Rockfield Avenue	Whatney to McLaren	12,000	15,880	16,500	16,792	16,154	16,541

Table 2

416	Rockfield Avenue	Bake Parkway to Whatney	5,000	6,694	7,559	7,636	7,259	7,372
417	Rockfield Avenue	Thomas to Bake Parkway	5,000	5,145	5,734	5,795	5,672	5,692
418	Roosevelt	Jeffrey Road to Vision	12,500	15,443	17,060	17,577	16,664	17,206
419	Roosevelt	Yale Avenue to Van Buren	8,500	8,812	9,191	9,343	8,969	9,058
420	Roosevelt	Vision to Bay Tree	10,500	14,654	16,183	16,893	15,775	16,387
421	Roosevelt	Nimitz to Jeffrey Road	12,500	14,187	14,507	14,604	14,499	14,608
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	8,800	13,745	13,715	14,013	13,703	14,053
423	Royal Oak	Alton Parkway to Eaglecreek	4,600	4,830	4,830	4,830	4,830	4,830
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	36,600	48,414	51,595	52,249	50,454	51,113
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	35,800	45,483	49,313	50,129	49,167	50,013
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	36,600	44,364	46,506	46,785	45,532	45,922
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	37,500	51,493	53,826	54,479	53,029	53,622
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	38,800	59,568	60,722	62,427	60,688	62,433
429	Sand Canyon Avenue	Trabuco Road to Towngate	31,500	42,099	39,436	41,347	40,085	42,024
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	26,100	36,308	39,030	39,517	38,043	38,582
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	38,800	49,577	50,537	51,956	50,509	51,961
432	Sand Canyon Avenue	Hospital to Barranca Parkway	26,800	34,191	37,782	38,333	35,931	36,289
433	Sand Canyon Avenue	Nightmist to Roosevelt	44,800	46,045	47,040	47,225	47,040	46,581
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	27,400	34,745	36,253	36,420	35,399	35,889
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	43,800	46,445	46,459	47,804	46,651	49,225
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	26,908	35,972	34,028	36,276	34,490	36,746
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	26,100	31,409	33,123	33,662	33,082	33,598
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	13,600	18,121	17,682	23,085	17,874	23,306
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	37,700	39,585	39,585	39,585	39,585	39,585
440	Sand Canyon Avenue	Alton Parkway to Hospital	26,800	31,835	34,402	34,877	32,774	33,129
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	21,700	22,794	23,990	24,017	23,802	23,970
442	Scientific Way	Irvine Center Drive to Wald	1,500	1,616	1,653	1,634	1,635	1,626
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	8,100	8,410	9,409	9,541	9,123	9,242
7,727	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	7,000	7,350	8,049	8,202	7,752	7,888
445	Skyhawk	Great Park Boulevard to Marine Way	2,200	12,035	10,431	10,359	10,666	10,600
446	Southwood	Yale Avenue to Colt	3,000	3,003	3,054	3,070	3,031	3,052
447	Southwood	Challenger to Yale Avenue	2,600	2,867	2,909	2,909	2,798	2,844
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	10,500	11,702	11,853	11,720	11,786	11,887
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	11,900	13,210	13,277	13,355	13,116	13,271
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	5,600	5,827	6,807	6,895	6,602	6,698

Table 2

451	Technology Drive	Barranca Parkway to Alton Parkway	14,100	27,461	33,564	33,560	32,036	32,103
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	5,800	14,421	25,455	25,533	23,487	23,614
453	Technology Drive	I-5/SR-133 to Barranca Parkway	5,300	11,458	24,498	24,552	22,568	22,678
454	Technology Drive	Ada to Alton Parkway	1,700	2,747	6,550	6,603	5,528	5,697
455	Toledo Way	Bake Parkway to City Limits	7,600	8,101	7,798	7,876	7,905	8,035
456	Toledo Way	Goodyear to Bake Parkway	6,100	6,577	6,405	6,405	6,324	6,383
457	Toledo Way	Alton Parkway to Parker	5,300	6,118	5,994	6,030	5,838	5,879
458	Trabuco Road	Keystone to Sand Canyon Avenue	13,100	14,020	14,736	14,918	14,475	14,594
459	Trabuco Road	Jeffrey Road to Keystone	13,100	13,755	14,256	14,426	13,713	13,846
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	12,000	12,898	13,483	13,569	13,214	13,275
461	Trabuco Road	Monroe to Yale Avenue	12,000	12,600	13,466	13,781	12,866	13,181
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	12,000	12,600	13,135	13,404	12,616	12,860
463	Trabuco Road	Yale Avenue to Remington	10,500	11,025	12,278	12,594	11,616	11,949
464	Trabuco Road	Remington to Jeffrey Road	10,500	11,025	11,518	11,786	11,077	11,295
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0	21,210	20,930	20,959	21,017	20,977
466	Turtle Rock Drive	Ridgeline to Willowleaf	7,000	8,148	8,823	8,839	8,727	8,738
467	Turtle Rock Drive	Silkwood to Sunnyhill	7,200	7,856	8,720	8,790	8,572	8,638
468	Turtle Rock Drive	Canyon Park to Ridgeline	6,700	6,963	7,353	7,358	7,206	7,159
469	Turtle Rock Drive	Sunnyhill to Southernwood	3,500	3,609	3,658	3,664	3,588	3,587
470	Turtle Rock Drive	Campus Drive to Hillgate	6,700	7,089	7,260	7,303	7,125	7,106
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	3,900	4,044	4,076	4,071	4,066	4,064
472	University Drive	Golden Glow to Yale Avenue	35,400	39,438	43,009	43,486	42,194	42,678
473	University Drive	Ridgeline to Michelson Drive	46,900	49,362	52,466	53,139	51,836	52,367
474	University Drive	Culver Drive to Golden Glow	34,500	38,353	41,770	42,225	41,000	41,441
475	University Drive	Yale Avenue to Ridgeline	34,200	35,343	37,097	37,727	36,567	36,983
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	52,900	54,745	59,053	59,773	58,027	58,667
477	University Drive	Mesa to Campus Drive	34,000	42,065	45,247	46,258	44,446	45,486
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	34,000	42,129	44,232	46,885	43,634	46,290
479	University Drive	California Avenue to Mesa	34,000	40,950	44,280	45,113	43,321	44,330
480	University Drive	Campus Drive to Harvard Avenue	27,800	33,789	37,107	38,009	36,432	37,310
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	15,000	18,527	19,626	20,520	19,332	20,200
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	26,000	31,273	32,890	34,513	32,489	34,047
483	University Drive	San Joaquin to Culver Drive	23,500	27,239	30,341	30,679	29,608	30,020
484	University Drive	Harvard Avenue to San Joaquin	23,500	27,126	30,225	30,550	29,483	29,892
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	4,300	13,681	13,886	13,837	13,484	13,433

Table 2

486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	4,500	7,844	12,395	12,291	11,004	11,018
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	4,200	8,042	11,075	11,266	10,125	10,317
488	Valley Oak Drive	Alton Parkway to Hawkcreek	5,100	6,753	6,689	6,590	6,517	6,501
489	Von Karman Avenue	Marriott to Morse Avenue	21,900	32,180	35,254	35,487	34,440	34,606
490	Von Karman Avenue	Michelson Drive to Quartz	21,300	30,568	34,068	34,303	33,121	33,326
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	23,800	28,817	33,488	33,736	32,658	33,069
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	26,200	35,462	41,190	41,710	40,666	41,216
493	Von Karman Avenue	Main Street to Anchor	23,100	27,652	32,693	33,066	31,991	32,464
494	Von Karman Avenue	Anchor to McGaw Avenue	23,100	27,101	31,540	31,904	30,891	31,313
495	Von Karman Avenue	Morse to Main Street	23,100	27,235	29,827	30,079	29,382	29,530
496	Von Karman Avenue	Martin to Dupont Drive	17,000	23,409	25,714	25,978	25,189	25,404
497	Von Karman Avenue	Campus Drive to Martin	17,000	23,065	25,190	25,324	24,686	24,957
498	Von Karman Avenue	Dupont Drive to Michelson Drive	17,000	23,141	25,012	25,306	24,689	24,911
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	21,600	31,658	34,800	34,873	34,097	34,208
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	20,400	21,679	22,977	23,422	22,555	22,735
501	Walnut Avenue	The Mall Street to Culver Drive	18,700	19,607	21,348	21,556	20,739	21,014
502	Walnut Avenue	Harvard Avenue to The Mall Street	18,700	19,566	21,283	21,466	20,671	20,921
503	Walnut Avenue	Franciscan Street to Ravenwood Street	17,800	18,104	19,627	20,217	19,169	19,748
504	Walnut Avenue	Ravenwood Street to Yale Avenue	17,800	18,267	19,787	19,725	19,154	19,073
505	Walnut Avenue	Culver Drive to Franciscan Street	17,800	18,122	19,171	19,522	18,884	19,198
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	20,300	23,611	26,108	26,432	25,274	25,674
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	20,300	23,091	25,075	25,325	24,408	24,721
508	Walnut Avenue	Yale Avenue to Kazan Street	11,900	13,893	14,945	15,195	14,408	14,757
509	Walnut Avenue	Wisteria to Jeffrey Road	11,900	14,036	14,674	14,856	14,301	14,563
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	25,400	28,474	29,278	28,958	29,075	28,741
511	Warner Avenue	Construction North to Harvard Avenue	16,800	19,399	20,424	20,168	20,183	19,878
512	Warner Avenue	Harvard Avenue to Paseo Westpark	11,400	13,312	14,244	14,205	13,998	13,949
513	Warner Avenue	Santa Ynez to Culver Drive	9,100	10,265	11,546	11,717	11,117	11,142
514	Warner Avenue	Culver Drive to West Yale Loop	8,700	9,123	10,716	10,973	10,312	10,428
515	West Yale Loop	Alton Parkway to Blue Lake North	8,000	9,388	9,475	9,360	9,402	9,462
516	West Yale Loop	Eagle Run to Main Street	8,000	9,045	9,135	9,015	9,077	9,126
517	West Yale Loop	Thunder Run to Yale Avenue	7,000	8,605	9,371	9,484	9,148	9,279
518	West Yale Loop	Main Street to Timber Run	7,000	7,350	7,206	7,261	7,350	7,177
519	West Yale Loop	Yale Avenue to Shorebird	5,700	6,121	7,821	8,013	7,270	7,554
520	West Yale Loop	Warner Avenue to Stonecreek South	5,700	6,494	6,943	7,018	6,777	6,766

Table 2

521	West Yale Loop	Barranca Parkway to Alton Parkway	5,500	6,497	6,571	6,549	6,586	6,550
522	West Yale Loop	Stonecreek North to Warner Avenue	5,700	5,909	6,771	6,875	6,484	6,628
523	West Yale Loop	Birdsong to Barranca Parkway	5,700	6,221	6,532	6,637	6,405	6,435
524	Westwood	Yorktown to Bryan Avenue	5,600	6,136	6,042	6,031	6,072	6,049
525	Westwood	Bryan Avenue to Leaf	3,600	3,830	3,912	3,919	3,762	3,817
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	10,200	10,521	10,497	10,502	10,511	10,532
527	Yale Avenue	Hicks Canyon Drive to Meadowood	7,500	7,885	7,806	7,828	7,814	7,828
528	Yale Avenue	Walnut Avenue to Roosevelt	13,600	14,427	14,894	15,197	14,547	14,775
529	Yale Avenue	Roosevelt to Trabuco Road	13,600	14,270	14,285	14,306	14,133	14,287
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	12,500	14,084	13,571	13,416	13,725	13,713
531	Yale Avenue	West Yale Loop to Irvine Center Drive	8,900	10,606	12,463	12,658	11,926	12,162
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	10,200	10,512	10,439	10,524	10,310	10,472
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	10,200	10,512	10,439	10,524	10,310	10,472
534	Yale Avenue	Trabuco Road to Southwood	9,000	10,224	10,232	10,332	10,111	10,318
535	Yale Avenue	Southwood to Bryan Avenue	9,000	10,061	9,703	9,807	9,802	9,907
536	Yale Avenue	Northwood to Irvine Boulevard	8,500	9,496	9,106	9,199	9,152	9,164
537	Yale Avenue	Bryan Avenue to Monticello	8,500	9,368	8,826	8,895	8,918	8,902
538	Yale Avenue	Irvine Boulevard to Park Place	7,200	7,567	7,442	7,432	7,463	7,457
539	Yale Avenue	University Drive to Royce	1,100	3,588	4,105	4,006	3,940	3,979
540	Yale Court	Arborwood to Portola Parkway	6,000	6,351	6,458	6,472	6,427	6,441

Source: Iteris 2024

Table 3: Distribution of Traffic Flow by Vehicle Type (Vehicle Mix)

Roadway Classification	Total % Traffic Flow[1]			Total
	Autos	Medium Trucks	Heavy Trucks	
All Roadways	97.42%	1.84%	0.74%	100.00%

[1] Source: Orange County vehicle mix.

Table 4: Time of Day Vehicle Splits

Vehicle Type	Time of Day Splits[1]			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

[1] Orange County vehicle mix.

"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5: Existing Conditions Noise Contours

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ada	Barranca Parway to Marine Way	0.0	RW	RW	RW
2	Ada	Alton Parkway to Barranca PArkway	60.3	RW	RW	65
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	102	220	475
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	110	236	509
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.3	77	165	355
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	RW	163	351
7	Alton Parkway	Jeffrey Road to Royal Oak	70.1	63	137	295
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	RW	RW	110
9	Alton Parkway	Culver Drive to West Yale Loop	70.4	67	143	309
10	Alton Parkway	West Yale Loop to Lake Road	70.3	66	141	304
11	Alton Parkway	Technology Drive West to Ada	70.2	82	177	382
12	Alton Parkway	Creek Road to East Yale Loop	70.1	64	137	296
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	RW	101	217
14	Alton Parkway	Lake Road to Creek Road	70.1	63	136	293
15	Alton Parkway	Telemetry to Banting	69.0	RW	116	249
16	Alton Parkway	Irvine Boulevard to Commercentre	70.3	88	190	409
17	Alton Parkway	Jenner to Telemetry	69.0	RW	115	248
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	RW	147	316
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	83	180	387
20	Alton Parkway	Laguna Canyon Road to Jenner	69.0	RW	115	248
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	RW	159	342
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.4	RW	123	265
23	Alton Parkway	Banting to Pacifica	68.4	RW	105	226
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.1	85	184	396
25	Alton Parkway	Ada to Technology Drive East	69.2	RW	160	345

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Table 5

26	Alton Parkway	Von Karman Avenue to Jamboree Road	68.7	RW	110	237
27	Alton Parkway	Jeronimo Road to Hughes	69.8	RW	175	377
28	Alton Parkway	Hughes to Morgan	69.5	RW	169	364
29	Alton Parkway	Morgan to Toledo Way	68.8	RW	151	325
30	Alton Parkway	San Marino to Culver Drive	68.8	RW	151	325
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.0	RW	134	288
32	Alton Parkway	Hospital to Laguna Canyon Road	70.7	67	144	310
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.1	71	153	330
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.1	RW	135	291
35	Alton Parkway	Foster to Irvine Boulevard	68.0	RW	133	286
36	Alton Parkway	Fairbanks to Foster	67.5	RW	124	267
37	Alton Parkway	Toledo Way to Bertea	68.2	RW	137	296
38	Alton Parkway	Pacifica to Meridian	69.7	RW	123	265
39	Alton Parkway	Bertea to Fairbanks	68.1	RW	135	291
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	RW	108	232
41	Alton Parkway	Paseo Westpark to San Marino	67.9	RW	131	283
42	Alton Parkway	Harvard Avenue to Paseo Westpark	66.9	RW	113	243
43	Astor	Lynx to Fairbanks	57.5	RW	RW	RW
44	Astor	Cadence to Lynx	0.0	RW	RW	RW
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	75.4	228	490	1,056
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.7	128	275	593
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	74.7	207	445	960
48	Bake Parkway	Jeronimo Road to Toledo Way	71.9	112	242	521
49	Bake Parkway	Toledo Way to Cromwell	71.5	107	230	495
50	Bake Parkway	Cromwell to Irvine Boulevard	71.4	104	224	483
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	68.5	RW	143	308
52	Bake Parkway	Irvine Center Drive to Research Drive	64.1	RW	RW	157
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	61.9	RW	RW	113
54	Banting	Alton Parkway to Barranca Parkway	57.6	RW	RW	RW
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	68	146	315
56	Barranca Parkway	Banting to Pacifica	70.7	70	150	324

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Table 5

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	RW	131	282
58	Barranca Parkway	Technology Drive West to Ada	70.4	67	144	311
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	RW	121	260
60	Barranca Parkway	Culver Drive to West Yale Loop	71.9	84	182	391
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	81	174	374
62	Barranca Parkway	West Yale Loop to Lake Road	71.6	80	173	372
63	Barranca Parkway	Ada to Alton Parkway	70.2	65	140	301
64	Barranca Parkway	Lake Road to Creek Road	71.2	76	163	350
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	167	360	775
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	RW	129	279
67	Barranca Parkway	Lyon to East Yale Loop	71.0	73	157	339
68	Barranca Parkway	Creek Road to Lyon	70.9	72	155	335
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	71.5	100	216	464
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	RW	107	231
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.0	108	233	501
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	RW	117	253
73	Barranca Parkway	Jamboree Road to Construction Circle	70.1	86	185	399
74	Barranca Parkway	Santa Rosa to Culver Drive	69.8	RW	176	378
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	RW	112	241
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	RW	104	225
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	RW	111	240
78	Barranca Parkway	Pullman Street to Red Hill Avenue	72.7	152	327	703
79	Barranca Parkway	Construction Circle to Fire Station	69.4	RW	166	357
80	Barranca Parkway	Fire Station to Harvard Avenue	69.4	RW	166	357
81	Barranca Parkway	Paseo Westpark to Santa Rosa	69.3	RW	163	350
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.2	RW	160	345
83	Bay Tree	Trabuco Road to Roosevelt	56.1	RW	RW	RW
84	Beacon	Ridge Valley to Benchmark	0.0	RW	RW	RW
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	RW	RW	RW
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	68.6	RW	109	235
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.0	75	162	350

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Table 5

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	67.5	RW	111	239
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	67.5	RW	111	239
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.5	RW	111	239
91	Bosque	Cadence to Great Park Boulevard	63.0	RW	RW	59
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	59.7	RW	RW	RW
93	Bosque	Benchmark to Cadence	59.7	RW	RW	RW
94	Bosque	Great Park Boulevard to Beacon	0.0	RW	RW	RW
95	Bosque	Beacon to S 5th Street	0.0	RW	RW	RW
96	Bryan Avenue	Jamboree Road to Market Place	68.7	RW	110	237
97	Bryan Avenue	Market Place to El Camino Real	68.7	RW	110	237
98	Bryan Avenue	Rubicon to Culver Drive	68.7	RW	110	237
99	Bryan Avenue	El Camino Real to Rubicon	68.7	RW	110	237
100	Bryan Avenue	Eastwood to Jeffrey Road	65.8	RW	70	152
101	Bryan Avenue	Westwood to Yale Avenue	66.3	RW	76	164
102	Bryan Avenue	Culver Drive to Westwood	66.3	RW	76	164
103	Bryan Avenue	Yale Avenue to Eastwood	65.8	RW	70	152
104	Cadence	Pusan to Chinon	64.5	RW	RW	75
105	Cadence	Bosque to Pusan	65.7	RW	41	89
106	Cadence	Ridge Valley (O Street) to Bosque	62.6	RW	RW	56
107	Cadence	Chinon to Merit	62.6	RW	RW	56
108	Cadence	Merit to Astor	0.0	RW	RW	RW
109	California Avenue	University Drive to Academy Way	64.3	RW	RW	120
110	California Avenue	Campus Drive to Harvard Avenue	63.2	RW	RW	102
111	California Avenue	Theory to Bison Avenue	63.1	RW	RW	100
112	Campus Drive	Carlson Avenue to University Drive	70.9	58	124	268
113	Campus Drive	University Drive to Bridge Road	70.1	64	138	296
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	RW	115	248
115	Campus Drive	Stanford Court to Berkeley Avenue	70.1	64	138	296
116	Campus Drive	California Avenue to Culver Drive	68.9	RW	113	243
117	Campus Drive	Berkeley Avenue to Cornell	68.9	RW	113	243
118	Campus Drive	Martin to Von Karman Avenue	67.5	RW	92	198

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Table 5

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.5	RW	106	229
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	RW	82	178
121	Campus Drive	MacArthur Boulevard to Martin	67.5	RW	92	198
122	Campus Drive	Teller Avenue to Jamboree Road	66.8	RW	82	178
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	RW	RW	124
124	Chinon	Irvine Boulevard to Cadence	56.6	RW	RW	RW
125	Creek Road	Alton Parkway to Barranca Parkway	55.3	RW	RW	RW
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.4	141	305	656
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.4	141	305	656
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.7	147	318	685
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.7	147	318	685
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.4	141	305	656
131	Culver Drive	San Leandro to Main Street	73.2	137	296	637
132	Culver Drive	Harvard Avenue to University Drive	72.7	128	275	593
133	Culver Drive	Trabuco Road to Farwell Avenue	74.1	150	322	694
134	Culver Drive	Alton Parkway to Barranca Parkway	72.9	130	280	604
135	Culver Drive	Main Street to Alton Parkway	72.7	128	276	594
136	Culver Drive	Warner Avenue to Irvine Center Drive	72.7	126	272	586
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.6	125	269	580
138	Culver Drive	Barranca Parkway to Warner Avenue	72.6	125	269	579
139	Culver Drive	Shady Canyon Drive to Palo Verde	71.4	77	166	358
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.3	119	257	553
141	Culver Drive	Sandburg Way to Michelson Drive	71.9	112	241	520
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.1	115	248	534
143	Culver Drive	Palo Verde to Campus Drive	71.4	77	166	358
144	Culver Drive	University Drive to Sandburg Way	71.5	106	228	491
145	Culver Drive	Farwell Avenue to Bryan Avenue	72.8	124	267	574
146	Culver Drive	Campus Drive to High School	71.6	108	232	501
147	Culver Drive	High School to Harvard Avenue	71.6	108	232	501
148	Culver Drive	Bryan Avenue to Florence	71.5	105	226	488
149	Culver Drive	Portola Parkway to Settlers	68.9	RW	114	245

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Table 5

150	Culver Drive	Florence to Irvine Boulevard	71.3	103	222	479
151	Culver Drive	Irvine Boulevard to Viewpark	70.0	84	180	388
152	Culver Drive	Viewpark to Meadowood	70.0	84	180	388
153	Culver Drive	Settlers to Furrow	0.0	RW	RW	RW
154	Culver Drive	Meadowood to Portola Parkway	68.3	RW	140	301
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	RW	RW	RW
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	RW	RW	RW
157	East Yale Loop	Alton Parkway to Witherspoon	64.6	RW	RW	127
158	East Yale Loop	Osborn Street to Barranca Parkway	64.3	RW	RW	122
159	East Yale Loop	Yale Avenue to Springbrook South	62.3	RW	RW	89
160	East Yale Loop	Springbrook North to Alton Parkway	62.3	RW	RW	89
161	East Yale Loop	Woodspring to Yale Avenue	62.3	RW	RW	89
162	East Yale Loop	Barranca Parkway to Eastshore	62.3	RW	RW	89
163	Eastwood	Bryan Avenue to Monticello	59.5	RW	RW	RW
164	Eastwood	Columbus to Bryan Avenue	58.5	RW	RW	RW
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	66.9	RW	84	181
166	El Camino Real North	El Camino Real to Bryan Avenue	62.2	RW	RW	87
167	Fairbanks	Alton Parkway to Astor	61.3	RW	RW	46
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	RW	RW	RW
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	63.3	RW	RW	104
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	RW	RW	RW
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	59.4	RW	RW	RW
172	Gateway Boulevard	Irvine Center Drive to Meridian	56.8	RW	RW	RW
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	65	140	302
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	RW	RW	116
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	RW	RW	RW
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	RW	RW	RW
177	Harvard Avenue	University Drive to Michelson Drive	71.2	45	97	209
178	Harvard Avenue	Michelson Drive to Coronado	69.5	RW	124	268
179	Harvard Avenue	San Marino to Alton Parkway	69.4	RW	123	265
180	Harvard Avenue	Coronado to Main Street	69.3	RW	121	262

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Table 5

181	Harvard Avenue	San Carlo to San Marino	69.4	RW	123	265
182	Harvard Avenue	Main Street to San Carlo	69.3	RW	121	262
183	Harvard Avenue	Alton Parkway to San Leon	68.5	RW	108	232
184	Harvard Avenue	San Juan to Barranca Parkway	68.5	RW	108	232
185	Harvard Avenue	San Leon to San Juan	68.4	RW	105	226
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	RW	68	146
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	RW	68	146
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.6	RW	94	202
189	Harvard Avenue	Bridge Road to University Drive	67.2	RW	88	190
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	RW	74	159
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	RW	66	143
192	Harvard Avenue	California Avenue to Berkeley Avenue	66.1	RW	74	159
193	Harvard Avenue	Culver Drive to California Avenue	66.1	RW	74	159
194	Harvard Avenue	Berkeley to Bridge Road	66.1	RW	74	159
195	Harvard Avenue	Warner Avenue to Paseo Westpark	65.9	RW	72	156
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	RW	RW	RW
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	RW	RW	RW
198	Hubble	Irvine Center Drive to Bunsen	55.5	RW	RW	RW
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.1	116	250	539
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.0	114	246	530
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	72.9	124	268	577
202	Irvine Boulevard	Merit to Alton	71.4	104	225	484
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.4	104	225	485
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.9	97	209	451
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	70.8	95	204	440
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.4	89	193	415
207	Irvine Boulevard	Culver Drive to Palo Lado	70.5	90	194	418
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	91	195	421
209	Irvine Boulevard	Old Myford Road to Market Place	70.3	88	190	409
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.5	91	196	423
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.3	88	190	409

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Table 5

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.3	88	189	408
213	Irvine Boulevard	Jeffrey Road to Groveland	70.6	92	198	427
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	69.8	RW	177	381
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to JeffreyRoad	70.2	87	187	404
216	Irvine Boulevard	Chinon (B Street) to Merit	70.2	87	188	405
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.1	85	184	396
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	69.9	RW	179	386
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	69.9	RW	179	386
220	Irvine Boulevard	Modjeska to Pusan Way	70.0	84	182	391
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.5	RW	168	362
222	Irvine Boulevard	Parker to Bake Parkway	69.0	RW	154	332
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.4	RW	142	305
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	98	210	453
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	RW	172	370
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	70.9	92	198	426
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	RW	172	370
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	RW	166	358
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	RW	173	373
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	RW	170	367
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	RW	164	353
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	RW	172	370
233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	RW	153	329
234	Irvine Center Drive	Spectrum to Pacifica	68.9	RW	153	330
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	RW	159	344
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	RW	136	293
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	69.7	RW	173	373
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	RW	157	339
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	RW	135	290
240	Irvine Center Drive	Harvard Avenue to Hearthstone	69.2	RW	159	344
241	Irvine Center Drive	Research to Hubble	67.9	RW	130	281
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	RW	113	243

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Table 5

243	Irvine Center Drive	Bake Parkway to Muller	67.9	RW	130	281
244	Irvine Center Drive	Discovery to Charter	67.3	RW	119	256
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	RW	129	278
246	Irvine Center Drive	Muller to Tesla	67.7	RW	127	273
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	RW	125	270
248	Irvine Center Drive	Tesla to Scientific Way	67.1	RW	116	250
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	RW	117	253
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	RW	109	235
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	RW	111	238
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	RW	112	240
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	RW	171	368
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.3	163	350	755
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.1	176	380	818
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.5	143	309	665
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.5	272	586	1,263
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.5	143	309	665
259	Jamboree Road	Main Street to Kelvin Avenue	75.7	241	519	1,119
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	73.6	192	414	893
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.5	231	498	1,074
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.4	229	494	1,064
263	Jamboree Road	Birch Street to Campus Drive	72.1	116	251	541
264	Jamboree Road	Dupont Drive to Michelson Drive	73.3	132	284	613
265	Jamboree Road	Alton Parkway to Beckman	75.2	222	477	1,028
266	Jamboree Road	Fairchild Road to Birch Street	72.2	113	243	523
267	Jamboree Road	Beckman to Barranca Parkway	75.0	215	464	1,000
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	74.9	211	455	981
269	Jamboree Road	Campus Drive to Dupont Drive	72.5	118	254	548
270	Jamboree Road	El Camino Real to West Drive	74.9	211	455	981
271	Jamboree Road	West Drive to Bryan Avenue	74.9	211	455	981
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.5	199	428	922
273	Jamboree Road	Koll Center to Fairchild Road	71.7	103	222	479

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Table 5

274	Jamboree Road	MacArthur Boulevard to Koll Center	71.8	106	229	493
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.0	84	180	388
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.0	254	547	1,179
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.1	222	479	1,032
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.8	212	457	984
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	70.9	97	208	448
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	71.8	106	229	493
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.4	89	192	413
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.3	88	190	410
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.2	87	187	402
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.4	89	191	411
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.3	87	188	405
286	Jeffrey Road	Quail Creek to Alton Parkway	70.4	89	191	411
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.1	86	185	398
288	Jeffrey Road	Trabuco Road to Hideaway	69.4	RW	165	356
289	Jeffrey Road	Hideaway to Bryan Avenue	69.4	RW	165	356
290	Jeffrey Road	Roosevelt to Grove	70.0	80	172	371
291	Jeffrey Road	Grove to Trabuco Road	70.0	80	172	371
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.1	RW	135	292
293	Jeffrey Road	Encore to Portola Parkway	64.0	RW	RW	156
294	Jeffrey Road	Irvine Boulevard to Encore	64.0	RW	RW	156
295	Jeronimo Road	Goodyear to Bake Parkway	64.4	RW	RW	123
296	Jeronimo Road	Alton Parkway to Goodyear	64.1	RW	RW	117
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	72.6	125	269	579
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	RW	95	205
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	RW	RW	131
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	RW	59	126
301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	RW	RW	109
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	RW	59	126
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	RW	68	146
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	RW	RW	124

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Table 5

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	64.8	RW	RW	131
306	Laguna Canyon Road	Barranca Parkway to Waterworks	63.9	RW	RW	113
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	68.3	RW	104	223
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	68.3	RW	104	223
309	Lake Forest Drive	Tesla to Bake Parkway	65.3	RW	88	190
310	Lake Road	Alton Parkway to Barranca Parkway	59.0	RW	RW	RW
311	Lynx	Irvine Boulevard to Astor	0.0	RW	RW	RW
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.0	250	539	1,162
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	75.8	245	529	1,139
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	75.7	239	514	1,107
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.7	RW	172	370
316	MacArthur Boulevard	Fairchild Road to University Drive	69.7	RW	172	370
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.4	85	183	395
318	MacArthur Boulevard	Michelson Drive to Douglas	71.3	121	261	562
319	MacArthur Boulevard	Douglas to Campus Drive	71.3	121	261	562
320	MacArthur Boulevard	Skypark to Main Street	69.0	RW	148	320
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.0	RW	134	289
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.5	RW	106	228
323	MacArthur Boulevard	Campus Drive to Birch Street	68.5	RW	172	371
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	RW	157	339
325	Main Street	MacArthur Boulevard to Mercantile	69.4	RW	157	339
326	Main Street	Executive Park to MacArthur Boulevard	67.7	RW	127	273
327	Main Street	Von Karman Avenue to Cartwright	67.2	RW	117	253
328	Main Street	McDurmott to Red Hill Avenue	67.9	RW	131	283
329	Main Street	Red Hill Avenue to Executive Circle	67.7	RW	127	273
330	Main Street	Jamboree Road to Union	67.4	RW	122	262
331	Main Street	Culver Drive to West Yale Loop	67.0	RW	85	184
332	Main Street	Siglo to Jamboree Road	67.2	RW	117	253
333	Main Street	Veneto to Harvard Avenue	67.4	RW	122	262
334	Main Street	Paseo Westpark to Culver Drive	66.2	RW	75	161
335	Main Street	Harvard Avenue to San Mateo	66.2	RW	75	161

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Table 5

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	RW	77	165
337	Marine Way	Alton Parkway to Bake Parkway	0.0	RW	RW	RW
338	Marine Way	Lynx to Barranca Parkway	0.0	RW	RW	RW
339	Marine Way	County Access to Treble	59.3	RW	RW	RW
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	RW	RW	85
341	Marine Way	Skyhawk to County Access	59.3	RW	RW	RW
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	RW	RW	RW
343	Marine Way	Treble to Lynx	0.0	RW	RW	RW
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	62.2	RW	RW	87
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	62.1	RW	RW	86
346	McGaw Avenue	Daimler to Red Hill Avenue	61.0	RW	RW	72
347	McGaw Avenue	Jamboree Road to Murphy Avenue	57.6	RW	RW	RW
348	Meadowood	Culver Drive to Canyonwood	59.5	RW	RW	RW
349	Meridian	Spectrum to Alton Parkway	54.7	RW	RW	RW
350	Meridian	Alton Parkway to Gateway Boulevard	53.5	RW	RW	RW
351	Merit	Irvine Boulevard to Cadence	59.3	RW	RW	RW
352	Michelson Drive	Riparian to Harvard Avenue	66.7	RW	82	176
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.3	RW	46	98
354	Michelson Drive	Von Karman Avenue to Obsidian	66.7	RW	81	175
355	Michelson Drive	Parkside to Culver Drive	66.2	RW	75	161
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.3	RW	46	98
357	Michelson Drive	Carlson to Prince	65.4	RW	80	173
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	66.7	RW	81	175
359	Michelson Drive	Harvard Avenue to Parkside	66.2	RW	75	161
360	Michelson Drive	Bixby to Von Karman Avenue	64.9	RW	RW	133
361	Michelson Drive	Jamboree Road to Carlson	68.0	RW	96	206
362	Michelson Drive	Teller to Jamboree Road	68.7	RW	106	229
363	Michelson Drive	Jordan East to University Drive	66.6	RW	38	82
364	Michelson Drive	Culver Drive to Angell	65.9	RW	46	99
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	70.7	33	72	154
366	Modjeska (A Street)	South of Irvine Boulevard	61.4	RW	RW	47

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Table 5

367	Muirlands Boulevard	Bake Parkway to City Limits	66.4	RW	77	167
368	Muirlands Boulevard	Alton Parkway to Sterling	66.1	RW	74	159
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.1	RW	74	159
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	65.9	RW	71	154
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.0	RW	RW	134
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	60.8	RW	RW	70
373	Northwood	Yale Avenue to Savannah	62.3	RW	RW	53
374	Northwood	Goldrush to Yale Avenue	60.5	RW	RW	40
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	RW	45	97
376	Pacifica	Gateway to Barranca Parkway	63.3	RW	RW	104
377	Pacifica	Alton Parkway to Gateway	61.8	RW	RW	83
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	61.7	RW	RW	81
379	Pacifica	Meridian to Alton Parkway	58.1	RW	RW	RW
380	Park Place	Christamon South to Yale Avenue	56.8	RW	RW	RW
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	65	140	302
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	65	140	302
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	RW	126	272
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	RW	126	272
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	RW	68	146
386	Portola Parkway	Gatepark to Culver Drive	69.6	RW	171	369
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	69.6	RW	171	369
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	69.6	RW	171	369
389	Portola Parkway	Jamboree Road to Bellevue	69.6	RW	171	369
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	69.6	RW	171	369
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	RW	146	314
392	Portola Parkway	Culver Drive to Yale Avenue	68.6	RW	146	314
393	Portola Parkway	Silverado to Portola Springs	66.5	RW	79	170
394	Pusan	Irvine Boulevard to Cadence	54.0	RW	RW	RW
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.3	RW	90	193
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	64.8	RW	RW	131
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.4	RW	RW	RW

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Table 5

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	70.8	96	206	444
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.6	RW	127	274
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.5	RW	168	361
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.3	RW	163	351
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.3	RW	162	350
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	70.2	62	133	287
404	Red Hill Avenue	Main Street to Skypark East	69.6	RW	122	263
405	Research Drive	Hubble to Bake Parkway	65.4	RW	66	143
406	Research Drive	Scientific to Lake Forest Drive	65.6	RW	68	147
407	Research Drive	Bake Parkway to Muller	66.2	RW	75	161
408	Research Drive	Irvine Center Drive to Bunsen	64.9	RW	RW	132
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	RW	67	145
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	65.9	RW	71	154
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	65.8	RW	70	152
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.0	RW	RW	RW
413	Ridgeline Drive	Concordia East to University Drive	67.7	RW	60	130
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	67.7	RW	60	130
415	Rockfield Avenue	Whatney to McLaren	66.3	RW	77	165
416	Rockfield Avenue	Bake Parkway to Whatney	62.5	RW	RW	92
417	Rockfield Avenue	Thomas to Bake Parkway	62.5	RW	RW	92
418	Roosevelt	Jeffrey Road to Vision	65.2	RW	65	139
419	Roosevelt	Yale Avenue to Van Buren	67.9	RW	47	101
420	Roosevelt	Vision to Bay Tree	64.5	RW	RW	124
421	Roosevelt	Nimitz to Jeffrey Road	65.2	RW	65	139
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	63.7	RW	RW	110
423	Royal Oak	Alton Parkway to Eaglecreek	63.8	RW	RW	54
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	93	200	432
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	70.6	92	197	425
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	73.6	104	225	485
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	96	206	445
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	151	326	703

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Table 5

429	Sand Canyon Avenue	Trabuco Road to Towngate	70.0	84	181	390
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	RW	160	344
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	72.7	151	326	703
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	RW	163	351
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.3	167	359	774
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	72.4	86	186	400
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.2	164	354	762
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	69.3	RW	163	352
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	69.2	RW	160	344
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	RW	99	214
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.6	149	320	689
440	Sand Canyon Avenue	Alton Parkway to Hospital	69.7	RW	165	356
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.3	74	159	342
442	Scientific Way	Irvine Center Drive to Wald	54.6	RW	RW	RW
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.6	RW	66	141
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.1	RW	69	148
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	4	10	21
446	Southwood	Yale Avenue to Colt	60.5	RW	RW	40
447	Southwood	Challenger to Yale Avenue	59.9	RW	RW	RW
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.4	RW	RW	78
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.0	RW	RW	85
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	56.9	RW	RW	RW
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	RW	85	184
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	RW	RW	102
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	RW	RW	96
454	Technology Drive	Ada to Alton Parkway	57.8	RW	RW	RW
455	Toledo Way	Bake Parkway to City Limits	65.5	RW	67	145
456	Toledo Way	Goodyear to Bake Parkway	64.5	RW	RW	125
457	Toledo Way	Alton Parkway to Parker	63.9	RW	RW	114
458	Trabuco Road	Keystone to Sand Canyon Avenue	66.7	RW	81	175
459	Trabuco Road	Jeffrey Road to Keystone	66.7	RW	81	175

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Table 5

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.3	RW	77	165
461	Trabuco Road	Monroe to Yale Avenue	66.3	RW	77	165
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.3	RW	77	165
463	Trabuco Road	Yale Avenue to Remington	65.7	RW	70	151
464	Trabuco Road	Remington to Jeffrey Road	65.7	RW	70	151
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	RW	RW	RW
466	Turtle Rock Drive	Ridgeline to Willowleaf	66.9	RW	50	108
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.0	RW	51	110
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.7	RW	48	104
469	Turtle Rock Drive	Sunnyhill to Southernwood	63.9	RW	RW	68
470	Turtle Rock Drive	Campus Drive to Hillgate	63.8	RW	RW	112
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.3	RW	42	90
472	University Drive	Golden Glow to Yale Avenue	72.2	87	188	405
473	University Drive	Ridgeline to Michelson Drive	72.1	104	223	481
474	University Drive	Culver Drive to Golden Glow	72.1	86	185	398
475	University Drive	Yale Avenue to Ridgeline	72.0	85	184	395
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.3	119	256	552
477	University Drive	Mesa to Campus Drive	73.3	99	214	462
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	73.3	99	214	462
479	University Drive	California Avenue to Mesa	73.3	99	214	462
480	University Drive	Campus Drive to Harvard Avenue	69.5	RW	167	359
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	70.4	53	114	247
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	69.2	RW	159	344
483	University Drive	San Joaquin to Culver Drive	68.7	RW	149	321
484	University Drive	Harvard Avenue to San Joaquin	68.7	RW	149	321
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	RW	RW	99
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	RW	51	110
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	RW	RW	98
488	Valley Oak Drive	Alton Parkway to Hawkcreek	63.8	RW	RW	111
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	RW	114	246
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	RW	112	242

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Table 5

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	RW	121	260
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	RW	127	273
493	Von Karman Avenue	Main Street to Anchor	69.2	RW	118	255
494	Von Karman Avenue	Anchor to McGaw Avenue	69.2	RW	118	255
495	Von Karman Avenue	Morse to Main Street	69.2	RW	118	255
496	Von Karman Avenue	Martin to Dupont Drive	67.8	RW	97	208
497	Von Karman Avenue	Campus Drive to Martin	67.8	RW	97	208
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	RW	97	208
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	RW	113	244
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.6	RW	109	235
501	Walnut Avenue	The Mall Street to Culver Drive	68.2	RW	103	222
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.2	RW	103	222
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.0	RW	100	214
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.0	RW	100	214
505	Walnut Avenue	Culver Drive to Franciscan Street	68.0	RW	100	214
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.0	RW	113	244
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.0	RW	113	244
508	Walnut Avenue	Yale Avenue to Kazan Street	66.3	RW	76	164
509	Walnut Avenue	Wisteria to Jeffrey Road	66.3	RW	76	164
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	69.6	RW	126	272
511	Warner Avenue	Construction North to Harvard Avenue	67.8	RW	96	206
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.1	RW	74	159
513	Warner Avenue	Santa Ynez to Culver Drive	65.1	RW	64	137
514	Warner Avenue	Culver Drive to West Yale Loop	64.9	RW	RW	133
515	West Yale Loop	Alton Parkway to Blue Lake North	63.3	RW	RW	104
516	West Yale Loop	Eagle Run to Main Street	63.3	RW	RW	104
517	West Yale Loop	Thunder Run to Yale Avenue	62.7	RW	RW	95
518	West Yale Loop	Main Street to Timber Run	62.7	RW	RW	95
519	West Yale Loop	Yale Avenue to Shorebird	61.8	RW	RW	83
520	West Yale Loop	Warner Avenue to Stonecreek South	61.8	RW	RW	83
521	West Yale Loop	Barranca Parkway to Alton Parkway	61.7	RW	RW	81

Table 5

522	West Yale Loop	Stonecreek North to Warner Avenue	61.8	RW	RW	83
523	West Yale Loop	Birdsong to Barranca Parkway	61.8	RW	RW	83
524	Westwood	Yorktown to Bryan Avenue	63.2	RW	RW	61
525	Westwood	Bryan Avenue to Leaf	61.3	RW	RW	46
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.5	RW	64	138
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.2	RW	52	113
528	Yale Avenue	Walnut Avenue to Roosevelt	70.7	44	96	206
529	Yale Avenue	Roosevelt to Trabuco Road	66.9	RW	83	179
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.5	RW	79	169
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	RW	63	135
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.6	RW	69	148
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.6	RW	69	148
534	Yale Avenue	Trabuco Road to Southwood	65.1	RW	63	136
535	Yale Avenue	Southwood to Bryan Avenue	65.1	RW	63	136
536	Yale Avenue	Northwood to Irvine Boulevard	64.8	RW	RW	131
537	Yale Avenue	Bryan Avenue to Monticello	64.8	RW	RW	131
538	Yale Avenue	Irvine Boulevard to Park Place	64.1	RW	RW	117
539	Yale Avenue	University Drive to Royce	57.9	RW	RW	RW
540	Yale Court	Arborwood to Portola Parkway	60.0	RW	RW	38

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

Table 6: Current General Plan Conditions Noise Contours

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ada	Barranca Parway to Marine Way	0.0	RW	RW	RW
2	Ada	Alton Parkway to Barranca PArkway	67.1	RW	86	186
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	72.6	125	269	579
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	73.3	132	284	613
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.5	79	170	367
6	Alton Parkway	Gateway Boulevard to Enterprise	70.5	91	195	421
7	Alton Parkway	Jeffrey Road to Royal Oak	70.4	66	143	308
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.4	67	144	310
9	Alton Parkway	Culver Drive to West Yale Loop	70.5	68	146	315
10	Alton Parkway	West Yale Loop to Lake Road	70.5	67	145	311
11	Alton Parkway	Technology Drive West to Ada	71.4	99	213	458
12	Alton Parkway	Creek Road to East Yale Loop	70.3	66	141	304
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	69.9	RW	134	288
14	Alton Parkway	Lake Road to Creek Road	70.3	65	140	303
15	Alton Parkway	Telemetry to Banting	69.8	RW	130	279
16	Alton Parkway	Irvine Boulevard to Commercentre	71.0	98	210	453
17	Alton Parkway	Jenner to Telemetry	69.7	RW	129	278
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	69.8	RW	176	379
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.6	105	226	487
20	Alton Parkway	Laguna Canyon Road to Jenner	69.7	RW	128	276
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	70.4	89	191	412
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.7	RW	128	277
23	Alton Parkway	Banting to Pacifica	69.3	RW	121	262
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.3	88	190	409
25	Alton Parkway	Ada to Technology Drive East	70.2	87	187	402

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Table 6

26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.2	RW	119	256
27	Alton Parkway	Jeronimo Road to Hughes	69.9	RW	179	385
28	Alton Parkway	Hughes to Morgan	69.7	RW	172	370
29	Alton Parkway	Morgan to Toledo Way	69.0	RW	154	332
30	Alton Parkway	San Marino to Culver Drive	69.0	RW	155	334
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.6	RW	147	316
32	Alton Parkway	Hospital to Laguna Canyon Road	71.5	75	162	349
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.4	74	160	346
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.5	RW	143	308
35	Alton Parkway	Foster to Irvine Boulevard	69.0	RW	155	334
36	Alton Parkway	Fairbanks to Foster	68.7	RW	148	319
37	Alton Parkway	Toledo Way to Bertea	68.4	RW	142	306
38	Alton Parkway	Pacifica to Meridian	70.7	67	144	310
39	Alton Parkway	Bertea to Fairbanks	68.3	RW	140	301
40	Alton Parkway	Meridian to Irvine Center Drive	67.5	RW	124	267
41	Alton Parkway	Paseo Westpark to San Marino	68.0	RW	134	288
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.1	RW	117	252
43	Astor	Lynx to Fairbanks	66.9	RW	50	109
44	Astor	Cadence to Lynx	66.0	RW	44	95
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.4	268	578	1245
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.9	131	281	606
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.1	217	468	1009
48	Bake Parkway	Jeronimo Road to Toledo Way	72.0	114	245	528
49	Bake Parkway	Toledo Way to Cromwell	71.6	108	232	500
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	108	232	501
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.3	RW	163	352
52	Bake Parkway	Irvine Center Drive to Research Drive	64.6	RW	RW	170
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.0	RW	RW	133
54	Banting	Alton Parkway to Barranca Parkway	59.3	RW	RW	RW
55	Barranca Parkway	Pacifica to Irvine Center Drive	71.7	81	174	375
56	Barranca Parkway	Banting to Pacifica	71.8	83	179	385

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Table 6

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	70.9	71	154	331
58	Barranca Parkway	Technology Drive West to Ada	71.5	78	169	364
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	70.8	70	152	327
60	Barranca Parkway	Culver Drive to West Yale Loop	72.0	85	183	394
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	82	176	379
62	Barranca Parkway	West Yale Loop to Lake Road	71.8	82	177	382
63	Barranca Parkway	Ada to Alton Parkway	72.3	89	191	411
64	Barranca Parkway	Lake Road to Creek Road	71.4	78	168	362
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.4	196	423	911
66	Barranca Parkway	Discovery/Herchel to Banting	71.1	74	159	343
67	Barranca Parkway	Lyon to East Yale Loop	71.1	74	160	345
68	Barranca Parkway	Creek Road to Lyon	71.1	74	159	342
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.4	116	249	536
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	70.6	68	147	317
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.1	110	238	513
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.4	66	143	308
73	Barranca Parkway	Jamboree Road to Construction Circle	70.7	94	202	436
74	Barranca Parkway	Santa Rosa to Culver Drive	70.6	92	198	427
75	Barranca Parkway	FedEx to Discovery/Herchel	69.6	RW	126	271
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	69.7	RW	129	278
77	Barranca Parkway	Laguna Canyon Road to FedEx	69.4	RW	124	266
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.4	170	366	788
79	Barranca Parkway	Construction Circle to Fire Station	70.1	85	183	395
80	Barranca Parkway	Fire Station to Harvard Avenue	70.1	85	183	395
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.1	85	184	396
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.7	RW	173	374
83	Bay Tree	Trabuco Road to Roosevelt	57.2	RW	RW	RW
84	Beacon	Ridge Valley to Benchmark	59.0	RW	RW	RW
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.7	RW	RW	RW
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.7	RW	129	278
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.2	77	167	359

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Table 6

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.5	RW	129	278
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	RW	122	263
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.9	RW	117	252
91	Bosque	Cadence to Great Park Boulevard	64.8	RW	RW	79
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.0	RW	RW	59
93	Bosque	Benchmark to Cadence	63.0	RW	RW	59
94	Bosque	Great Park Boulevard to Beacon	56.9	RW	RW	RW
95	Bosque	Beacon to S 5th Street	55.9	RW	RW	RW
96	Bryan Avenue	Jamboree Road to Market Place	68.9	RW	114	245
97	Bryan Avenue	Market Place to El Camino Real	68.9	RW	114	245
98	Bryan Avenue	Rubicon to Culver Drive	68.9	RW	114	245
99	Bryan Avenue	El Camino Real to Rubicon	68.9	RW	114	245
100	Bryan Avenue	Eastwood to Jeffrey Road	66.3	RW	76	165
101	Bryan Avenue	Westwood to Yale Avenue	66.3	RW	77	165
102	Bryan Avenue	Culver Drive to Westwood	66.4	RW	78	168
103	Bryan Avenue	Yale Avenue to Eastwood	66.0	RW	73	157
104	Cadence	Pusan to Chinon	64.1	RW	RW	71
105	Cadence	Bosque to Pusan	64.2	RW	RW	71
106	Cadence	Ridge Valley (O Street) to Bosque	64.0	RW	RW	69
107	Cadence	Chinon to Merit	59.1	RW	RW	RW
108	Cadence	Merit to Astor	58.6	RW	RW	RW
109	California Avenue	University Drive to Academy Way	66.2	RW	75	161
110	California Avenue	Campus Drive to Harvard Avenue	64.1	RW	RW	118
111	California Avenue	Theory to Bison Avenue	64.0	RW	RW	116
112	Campus Drive	Carlson Avenue to University Drive	73.0	79	171	369
113	Campus Drive	University Drive to Bridge Road	71.7	81	174	374
114	Campus Drive	Jamboree Road to Carlson Avenue	71.3	76	164	353
115	Campus Drive	Stanford Court to Berkeley Avenue	71.0	73	158	341
116	Campus Drive	California Avenue to Culver Drive	70.9	72	155	333
117	Campus Drive	Berkeley Avenue to Cornell	69.9	RW	133	286
118	Campus Drive	Martin to Von Karman Avenue	68.7	RW	110	238

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Table 6

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.6	RW	109	235
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.1	RW	100	216
121	Campus Drive	MacArthur Boulevard to Martin	68.1	RW	100	216
122	Campus Drive	Teller Avenue to Jamboree Road	67.2	RW	88	190
123	Carlson Avenue	Michelson Drive to Campus Drive	67.8	RW	97	208
124	Chinon	Irvine Boulevard to Cadence	58.3	RW	RW	RW
125	Creek Road	Alton Parkway to Barranca Parkway	56.0	RW	RW	RW
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.7	149	320	690
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.9	152	327	705
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	153	329	709
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.9	152	328	707
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	147	316	681
131	Culver Drive	San Leandro to Main Street	73.3	140	302	651
132	Culver Drive	Harvard Avenue to University Drive	73.3	139	300	646
133	Culver Drive	Trabuco Road to Farwell Avenue	74.4	156	337	725
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	137	296	638
135	Culver Drive	Main Street to Alton Parkway	73.1	135	290	626
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	133	286	615
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.9	132	284	612
138	Culver Drive	Barranca Parkway to Warner Avenue	72.8	129	279	601
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.1	86	185	399
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.6	125	269	580
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	123	266	572
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	122	262	566
143	Culver Drive	Palo Verde to Campus Drive	71.6	80	172	370
144	Culver Drive	University Drive to Sandburg Way	72.2	117	252	543
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.3	132	284	612
146	Culver Drive	Campus Drive to High School	72.1	116	250	540
147	Culver Drive	High School to Harvard Avenue	72.0	115	248	534
148	Culver Drive	Bryan Avenue to Florence	71.8	111	238	513
149	Culver Drive	Portola Parkway to Settlers	71.1	74	159	342

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Table 6

150	Culver Drive	Florence to Irvine Boulevard	71.7	109	235	506
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	91	196	423
152	Culver Drive	Viewpark to Meadowood	70.5	91	195	421
153	Culver Drive	Settlers to Furrow	68.3	RW	104	224
154	Culver Drive	Meadowood to Portola Parkway	69.0	RW	154	333
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	63.8	RW	RW	111
156	Discovery Drive	Waterworks Way to Irvine Center Drive	60.7	RW	RW	70
157	East Yale Loop	Alton Parkway to Witherspoon	65.3	RW	65	140
158	East Yale Loop	Osborn Street to Barranca Parkway	65.0	RW	RW	135
159	East Yale Loop	Yale Avenue to Springbrook South	64.3	RW	RW	121
160	East Yale Loop	Springbrook North to Alton Parkway	63.4	RW	RW	105
161	East Yale Loop	Woodspring to Yale Avenue	62.5	RW	RW	92
162	East Yale Loop	Barranca Parkway to Eastshore	62.5	RW	RW	92
163	Eastwood	Bryan Avenue to Monticello	60.5	RW	RW	40
164	Eastwood	Columbus to Bryan Avenue	58.8	RW	RW	RW
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.0	RW	85	183
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	RW	RW	90
167	Fairbanks	Alton Parkway to Astor	69.7	RW	77	166
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.8	RW	49	107
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.0	RW	RW	116
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	62.8	RW	RW	96
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	61.6	RW	RW	80
172	Gateway Boulevard	Irvine Center Drive to Meridian	58.4	RW	RW	RW
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.1	113	244	525
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	69.7	RW	129	279
175	Great Park Boulevard (EB)	Bosque to Skyhawk	68.0	RW	60	129
176	Great Park Boulevard (WB)	Bosque to Skyhawk	67.6	RW	56	120
177	Harvard Avenue	University Drive to Michelson Drive	71.8	49	106	229
178	Harvard Avenue	Michelson Drive to Coronado	70.2	64	138	298
179	Harvard Avenue	San Marino to Alton Parkway	70.0	RW	134	289
180	Harvard Avenue	Coronado to Main Street	70.0	63	135	290

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Table 6

181	Harvard Avenue	San Carlo to San Marino	69.9	RW	132	284
182	Harvard Avenue	Main Street to San Carlo	69.8	RW	130	281
183	Harvard Avenue	Alton Parkway to San Leon	68.8	RW	111	239
184	Harvard Avenue	San Juan to Barranca Parkway	68.6	RW	109	236
185	Harvard Avenue	San Leon to San Juan	68.6	RW	108	233
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.4	RW	91	196
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.4	RW	91	195
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.9	RW	97	209
189	Harvard Avenue	Bridge Road to University Drive	67.6	RW	93	199
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.7	RW	95	205
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.7	RW	89	191
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.0	RW	85	183
193	Harvard Avenue	Culver Drive to California Avenue	66.9	RW	84	181
194	Harvard Avenue	Berkeley to Bridge Road	67.0	RW	85	183
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.8	RW	82	178
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.4	RW	RW	RW
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.5	RW	RW	RW
198	Hubble	Irvine Center Drive to Bunsen	55.7	RW	RW	RW
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.3	120	258	557
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.2	118	254	547
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.1	128	277	596
202	Irvine Boulevard	Merit to Alton	71.6	108	232	500
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.6	108	232	501
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.2	100	216	466
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	98	211	455
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.6	92	197	425
207	Irvine Boulevard	Culver Drive to Palo Lado	70.6	92	199	429
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.6	92	198	427
209	Irvine Boulevard	Old Myford Road to Market Place	70.5	91	196	423
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.7	93	200	432
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.5	90	195	419

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Table 6

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.4	90	194	417
213	Irvine Boulevard	Jeffrey Road to Groveland	70.8	95	205	441
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.9	96	206	444
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to JeffreyRoad	70.5	91	196	421
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	90	194	418
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.2	87	188	405
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.1	85	183	395
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.1	85	183	394
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	87	188	404
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.6	RW	171	369
222	Irvine Boulevard	Parker to Bake Parkway	69.6	RW	170	366
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	RW	146	315
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.5	118	254	548
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	71.4	105	225	486
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.1	111	238	513
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.3	103	221	476
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.0	99	212	458
229	Irvine Center Drive	Culver Drive to Deerwood	71.0	98	211	455
230	Irvine Center Drive	Deerwood to Yale Avenue	71.0	97	210	451
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	70.9	97	208	449
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.1	99	213	458
233	Irvine Center Drive	Alton Parkway to Spectrum	70.4	90	193	416
234	Irvine Center Drive	Spectrum to Pacifica	70.3	88	191	411
235	Irvine Center Drive	Hearthstone to Culver Drive	70.6	93	200	430
236	Irvine Center Drive	Charter to Barranca Parkway	70.2	87	187	402
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.3	88	189	407
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.3	88	189	408
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.0	84	181	391
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.0	RW	180	387
241	Irvine Center Drive	Research to Hubble	69.8	RW	176	379
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	69.4	RW	165	356

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Table 6

243	Irvine Center Drive	Bake Parkway to Muller	69.9	RW	179	386
244	Irvine Center Drive	Discovery to Charter	69.3	RW	163	350
245	Irvine Center Drive	Hubble to Bake Parkway	69.7	RW	173	373
246	Irvine Center Drive	Muller to Tesla	69.5	RW	167	359
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.0	RW	155	335
248	Irvine Center Drive	Tesla to Scientific Way	69.2	RW	160	345
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.9	RW	154	331
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.3	RW	140	302
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.2	RW	137	295
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.3	RW	140	301
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	70.8	95	204	441
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	168	362	780
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.4	183	395	851
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.8	152	327	704
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.9	288	619	1335
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.6	146	314	677
259	Jamboree Road	Main Street to Kelvin Avenue	76.2	257	554	1194
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.2	209	450	969
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.8	245	528	1137
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.8	243	523	1126
263	Jamboree Road	Birch Street to Campus Drive	72.6	125	269	581
264	Jamboree Road	Dupont Drive to Michelson Drive	73.5	138	297	639
265	Jamboree Road	Alton Parkway to Beckman	75.4	229	494	1064
266	Jamboree Road	Fairchild Road to Birch Street	73.2	130	281	605
267	Jamboree Road	Beckman to Barranca Parkway	75.2	222	478	1029
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	218	470	1013
269	Jamboree Road	Campus Drive to Dupont Drive	72.7	122	263	566
270	Jamboree Road	El Camino Real to West Drive	75.1	218	470	1013
271	Jamboree Road	West Drive to Bryan Avenue	75.1	218	469	1011
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.8	208	449	968
273	Jamboree Road	Koll Center to Fairchild Road	72.5	117	251	541

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Table 6

274	Jamboree Road	MacArthur Boulevard to Koll Center	72.5	117	252	543
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.8	95	206	443
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.1	257	554	1194
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.2	227	488	1052
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.9	217	467	1006
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.3	102	220	474
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.2	113	242	522
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.8	95	205	443
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.5	91	196	422
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.6	93	200	430
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.5	90	195	419
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.4	90	194	418
286	Jeffrey Road	Quail Creek to Alton Parkway	70.5	91	195	420
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.3	88	189	408
288	Jeffrey Road	Trabuco Road to Hideaway	69.7	RW	173	372
289	Jeffrey Road	Hideaway to Bryan Avenue	69.7	RW	172	371
290	Jeffrey Road	Roosevelt to Grove	70.4	84	182	392
291	Jeffrey Road	Grove to Trabuco Road	70.3	84	181	390
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.5	RW	144	310
293	Jeffrey Road	Encore to Portola Parkway	66.1	RW	99	213
294	Jeffrey Road	Irvine Boulevard to Encore	65.6	RW	93	200
295	Jeronimo Road	Goodyear to Bake Parkway	64.8	RW	RW	130
296	Jeronimo Road	Alton Parkway to Goodyear	64.7	RW	RW	128
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.3	140	302	650
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	70.0	RW	134	289
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	68.1	RW	101	217
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	68.0	RW	79	171
301	Laguna Canyon Road	Irvine Center Drive to Discovery	67.3	RW	89	192
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	68.0	RW	79	171
303	Laguna Canyon Road	Pasteur to Alton Parkway	66.9	RW	84	181
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	66.2	RW	75	162

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Table 6

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.0	RW	73	158
306	Laguna Canyon Road	Barranca Parkway to Waterworks	65.6	RW	69	148
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.2	RW	119	257
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.2	RW	119	256
309	Lake Forest Drive	Tesla to Bake Parkway	66.2	RW	102	219
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	RW	RW	RW
311	Lynx	Irvine Boulevard to Astor	53.5	RW	RW	RW
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.4	267	576	1241
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.5	272	586	1262
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.4	267	575	1240
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	RW	178	382
316	MacArthur Boulevard	Fairchild Road to University Drive	69.8	RW	174	376
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	86	186	401
318	MacArthur Boulevard	Michelson Drive to Douglas	71.8	131	283	610
319	MacArthur Boulevard	Douglas to Campus Drive	71.9	133	286	617
320	MacArthur Boulevard	Skypark to Main Street	69.6	RW	161	347
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.5	RW	143	308
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.8	RW	111	239
323	MacArthur Boulevard	Campus Drive to Birch Street	69.1	RW	187	404
324	Main Street	Gillette Avenue to Von Karman Avenue	70.2	82	177	380
325	Main Street	MacArthur Boulevard to Mercantile	69.9	RW	170	366
326	Main Street	Executive Park to MacArthur Boulevard	68.2	RW	137	294
327	Main Street	Von Karman Avenue to Cartwright	67.8	RW	129	279
328	Main Street	McDurmott to Red Hill Avenue	68.0	RW	133	286
329	Main Street	Red Hill Avenue to Executive Circle	67.9	RW	131	283
330	Main Street	Jamboree Road to Union	67.7	RW	127	274
331	Main Street	Culver Drive to West Yale Loop	67.2	RW	88	190
332	Main Street	Siglo to Jamboree Road	67.4	RW	121	261
333	Main Street	Veneto to Harvard Avenue	67.6	RW	126	271
334	Main Street	Paseo Westpark to Culver Drive	66.4	RW	77	167
335	Main Street	Harvard Avenue to San Mateo	66.3	RW	76	164

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Table 6

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.1	69	149	320
337	Marine Way	Alton Parkway to Bake Parkway	69.0	RW	116	250
338	Marine Way	Lynx to Barranca Parkway	69.4	RW	123	264
339	Marine Way	County Access to Treble	65.3	RW	66	142
340	Marine Way	Ridge Valley (O Street) to Skyhawk	67.6	RW	92	199
341	Marine Way	Skyhawk to County Access	64.9	RW	RW	133
342	Marine Way	Barranca Parkway to Alton Parkway	66.3	RW	76	164
343	Marine Way	Treble to Lynx	67.1	RW	86	185
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	63.6	RW	RW	109
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	63.6	RW	RW	109
346	McGaw Avenue	Daimler to Red Hill Avenue	62.4	RW	RW	91
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.2	RW	RW	RW
348	Meadowood	Culver Drive to Canyonwood	59.8	RW	RW	RW
349	Meridian	Spectrum to Alton Parkway	54.9	RW	RW	RW
350	Meridian	Alton Parkway to Gateway Boulevard	54.1	RW	RW	RW
351	Merit	Irvine Boulevard to Cadence	57.3	RW	RW	RW
352	Michelson Drive	Riparian to Harvard Avenue	67.8	RW	97	208
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.7	RW	49	105
354	Michelson Drive	Von Karman Avenue to Obsidian	67.8	RW	95	206
355	Michelson Drive	Parkside to Culver Drive	66.8	RW	83	178
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.5	RW	47	102
357	Michelson Drive	Carlson to Prince	67.0	RW	101	218
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.0	RW	84	182
359	Michelson Drive	Harvard Avenue to Parkside	66.8	RW	83	178
360	Michelson Drive	Bixby to Von Karman Avenue	66.3	RW	76	165
361	Michelson Drive	Jamboree Road to Carlson	69.5	RW	119	256
362	Michelson Drive	Teller to Jamboree Road	69.5	RW	119	256
363	Michelson Drive	Jordan East to University Drive	66.8	RW	39	85
364	Michelson Drive	Culver Drive to Angell	66.1	RW	47	102
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	39	83	180
366	Modjeska (A Street)	South of Irvine Boulevard	60.6	RW	RW	41

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Table 6

367	Muirlands Boulevard	Bake Parkway to City Limits	67.2	RW	87	188
368	Muirlands Boulevard	Alton Parkway to Sterling	66.3	RW	76	165
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.2	RW	75	162
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.7	RW	81	174
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.2	RW	64	139
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	62.1	RW	RW	86
373	Northwood	Yale Avenue to Savannah	62.4	RW	RW	54
374	Northwood	Goldrush to Yale Avenue	61.3	RW	RW	46
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	67.4	RW	54	117
376	Pacifica	Gateway to Barranca Parkway	64.6	RW	RW	127
377	Pacifica	Alton Parkway to Gateway	63.2	RW	RW	102
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	63.2	RW	RW	102
379	Pacifica	Meridian to Alton Parkway	60.0	RW	RW	RW
380	Park Place	Christamon South to Yale Avenue	57.0	RW	RW	RW
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.3	76	164	353
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.3	76	164	353
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.3	76	164	353
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	70.9	72	155	334
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.0	63	135	291
386	Portola Parkway	Gatepark to Culver Drive	70.3	87	188	405
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.2	87	188	404
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.1	85	184	396
389	Portola Parkway	Jamboree Road to Bellevue	70.1	85	182	393
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.0	84	181	391
391	Portola Parkway	Yale Avenue to Jeffrey Road	69.8	RW	177	381
392	Portola Parkway	Culver Drive to Yale Avenue	69.4	RW	165	356
393	Portola Parkway	Silverado to Portola Springs	68.5	RW	107	231
394	Pusan	Irvine Boulevard to Cadence	56.1	RW	RW	RW
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.6	RW	93	199
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.6	RW	69	148
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.9	RW	RW	RW

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Table 6

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.3	102	219	472
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.9	RW	132	284
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.9	RW	179	385
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.7	RW	174	375
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.7	RW	174	374
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.0	70	150	323
404	Red Hill Avenue	Main Street to Skypark East	70.4	63	136	294
405	Research Drive	Hubble to Bake Parkway	69.5	RW	124	267
406	Research Drive	Scientific to Lake Forest Drive	67.6	RW	93	200
407	Research Drive	Bake Parkway to Muller	66.5	RW	79	170
408	Research Drive	Irvine Center Drive to Bunsen	65.5	RW	67	144
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.4	RW	91	196
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.5	RW	79	170
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	RW	73	157
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	RW	RW	RW
413	Ridgeline Drive	Concordia East to University Drive	68.6	RW	69	149
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.2	RW	65	141
415	Rockfield Avenue	Whatney to McLaren	67.5	RW	92	199
416	Rockfield Avenue	Bake Parkway to Whatney	63.8	RW	RW	112
417	Rockfield Avenue	Thomas to Bake Parkway	62.6	RW	RW	94
418	Roosevelt	Jeffrey Road to Vision	66.1	RW	75	161
419	Roosevelt	Yale Avenue to Van Buren	68.1	RW	48	104
420	Roosevelt	Vision to Bay Tree	65.9	RW	72	155
421	Roosevelt	Nimitz to Jeffrey Road	65.8	RW	70	152
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.6	RW	69	149
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	RW	RW	56
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	71.9	112	241	520
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	71.6	107	232	499
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.4	119	256	551
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.6	118	255	550
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.6	202	434	935

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Table 6

429	Sand Canyon Avenue	Trabuco Road to Towngate	71.3	102	220	474
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	70.6	92	199	429
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	73.8	178	384	828
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.4	89	191	412
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.4	170	366	788
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.4	101	217	469
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.5	171	368	792
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.6	92	198	427
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.0	84	181	390
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	69.3	RW	120	259
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	153	331	712
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.5	86	185	399
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.6	76	164	354
442	Scientific Way	Irvine Center Drive to Wald	54.9	RW	RW	RW
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.8	RW	67	145
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.3	RW	71	153
445	Skyhawk	Great Park Boulevard to Marine Way	60.2	14	30	64
446	Southwood	Yale Avenue to Colt	60.5	9	19	40
447	Southwood	Challenger to Yale Avenue	60.3	8	18	39
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.9	18	39	84
449	Spectrum Center Drive (FortuneDrive)	Quassar Drive (Spectrum) to Gatewayb	62.4	20	42	91
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.0	9	18	40
451	Technology Drive	Barranca Parkway to Alton Parkway	69.9	62	133	286
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	67.1	40	87	186
453	Technology Drive	I-5/SR-133 to Barranca Parkway	66.1	34	74	160
454	Technology Drive	Ada to Alton Parkway	59.9	13	29	62
455	Toledo Way	Bake Parkway to City Limits	65.8	33	70	151
456	Toledo Way	Goodyear to Bake Parkway	64.9	28	61	132
457	Toledo Way	Alton Parkway to Parker	64.5	27	58	126
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.0	39	85	183
459	Trabuco Road	Jeffrey Road to Keystone	66.9	39	84	181

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Table 6

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.6	37	80	173
461	Trabuco Road	Monroe to Yale Avenue	66.5	37	79	170
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.5	37	79	170
463	Trabuco Road	Yale Avenue to Remington	66.0	34	72	156
464	Trabuco Road	Remington to Jeffrey Road	66.0	34	72	156
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.8	52	112	241
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.5	26	55	119
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.4	25	54	116
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.8	23	50	107
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	15	32	69
470	Turtle Rock Drive	Campus Drive to Hillgate	64.0	25	54	116
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.4	20	43	92
472	University Drive	Golden Glow to Yale Avenue	72.6	94	202	435
473	University Drive	Ridgeline to Michelson Drive	72.3	107	231	497
474	University Drive	Culver Drive to Golden Glow	72.5	92	198	427
475	University Drive	Yale Avenue to Ridgeline	72.2	87	188	404
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.4	122	262	564
477	University Drive	Mesa to Campus Drive	74.2	115	247	532
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.2	115	247	533
479	University Drive	California Avenue to Mesa	74.1	113	243	523
480	University Drive	Campus Drive to Harvard Avenue	70.3	88	190	409
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.3	61	132	284
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.0	84	180	389
483	University Drive	San Joaquin to Culver Drive	69.4	76	165	354
484	University Drive	Harvard Avenue to San Joaquin	69.4	76	164	353
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.0	46	100	215
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	67.6	34	74	160
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	65.7	32	70	151
488	Valley Oak Drive	Alton Parkway to Hawkcreek	65.0	29	62	134
489	Von Karman Avenue	Marriott to Morse Avenue	70.6	69	148	318
490	Von Karman Avenue	Michelson Drive to Quartz	70.4	66	143	308

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Table 6

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.1	64	137	296
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	69.7	72	155	334
493	Von Karman Avenue	Main Street to Anchor	69.9	62	134	288
494	Von Karman Avenue	Anchor to McGaw Avenue	69.9	61	132	284
495	Von Karman Avenue	Morse to Main Street	69.9	61	132	285
496	Von Karman Avenue	Martin to Dupont Drive	69.2	55	119	257
497	Von Karman Avenue	Campus Drive to Martin	69.2	55	118	255
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.2	55	119	255
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	70.5	68	146	315
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.9	53	114	245
501	Walnut Avenue	The Mall Street to Culver Drive	68.5	49	106	229
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.4	49	106	228
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.1	47	101	217
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.1	47	101	218
505	Walnut Avenue	Culver Drive to Franciscan Street	68.1	47	101	217
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.6	58	125	270
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.5	57	123	266
508	Walnut Avenue	Yale Avenue to Kazan Street	67.0	39	84	182
509	Walnut Avenue	Wisteria to Jeffrey Road	67.0	39	85	183
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.1	63	136	293
511	Warner Avenue	Construction North to Harvard Avenue	68.4	49	105	227
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.8	38	82	177
513	Warner Avenue	Santa Ynez to Culver Drive	65.6	32	69	149
514	Warner Avenue	Culver Drive to West Yale Loop	65.1	30	64	137
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	25	53	115
516	West Yale Loop	Eagle Run to Main Street	63.8	24	52	112
517	West Yale Loop	Thunder Run to Yale Avenue	63.6	23	50	109
518	West Yale Loop	Main Street to Timber Run	62.9	21	45	98
519	West Yale Loop	Yale Avenue to Shorebird	62.1	19	40	87
520	West Yale Loop	Warner Avenue to Stonecreek South	62.4	19	42	90
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	19	42	90

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Table 6

522	West Yale Loop	Stonecreek North to Warner Avenue	62.0	18	39	85
523	West Yale Loop	Birdsong to Barranca Parkway	62.2	19	41	88
524	Westwood	Yorktown to Bryan Avenue	63.6	14	30	65
525	Westwood	Bryan Avenue to Leaf	61.6	10	22	48
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	30	65	141
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.4	25	54	116
528	Yale Avenue	Walnut Avenue to Roosevelt	70.9	46	100	215
529	Yale Avenue	Roosevelt to Trabuco Road	67.1	40	86	185
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	67.0	40	85	183
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.8	33	70	152
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.7	33	70	151
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.7	33	70	151
534	Yale Avenue	Trabuco Road to Southwood	65.6	32	69	148
535	Yale Avenue	Southwood to Bryan Avenue	65.6	32	68	147
536	Yale Avenue	Northwood to Irvine Boulevard	65.3	30	65	141
537	Yale Avenue	Bryan Avenue to Monticello	65.2	30	65	140
538	Yale Avenue	Irvine Boulevard to Park Place	64.3	26	56	121
539	Yale Avenue	University Drive to Royce	63.0	17	37	80
540	Yale Court	Arborwood to Portola Parkway	60.3	8	18	39

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

Table 7: Conservative Plan Conditions Noise Contours

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ada	Barranca Parway to Marine Way	70.8	42	91	196
2	Ada	Alton Parkway to Barranca PArkway	69.3	RW	120	259
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	74.1	159	342	736
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	74.8	167	360	775
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.8	83	178	383
6	Alton Parkway	Gateway Boulevard to Enterprise	72.0	114	245	529
7	Alton Parkway	Jeffrey Road to Royal Oak	70.9	72	154	333
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.7	69	149	322
9	Alton Parkway	Culver Drive to West Yale Loop	70.7	69	149	322
10	Alton Parkway	West Yale Loop to Lake Road	70.7	69	149	321
11	Alton Parkway	Technology Drive West to Ada	72.6	120	258	556
12	Alton Parkway	Creek Road to East Yale Loop	70.6	69	148	319
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	70.5	68	146	314
14	Alton Parkway	Lake Road to Creek Road	70.4	66	143	308
15	Alton Parkway	Telemetry to Banting	70.4	67	144	309
16	Alton Parkway	Irvine Boulevard to Commercentre	70.8	95	205	441
17	Alton Parkway	Jenner to Telemetry	70.4	66	142	306
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	71.2	102	219	471
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.7	105	226	488
20	Alton Parkway	Laguna Canyon Road to Jenner	70.3	65	140	302
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	71.2	101	217	468
22	Alton Parkway	Royal Oak to Valley Oak Drive	70.1	63	136	294
23	Alton Parkway	Banting to Pacifica	70.0	63	135	291
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.9	97	209	450
25	Alton Parkway	Ada to Technology Drive East	70.7	93	201	432

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Table 7

26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.7	RW	130	279
27	Alton Parkway	Jeronimo Road to Hughes	69.9	RW	178	383
28	Alton Parkway	Hughes to Morgan	69.8	RW	174	376
29	Alton Parkway	Morgan to Toledo Way	69.1	RW	157	338
30	Alton Parkway	San Marino to Culver Drive	69.2	RW	159	343
31	Alton Parkway	Jamboree Road to Murphy Avenue	69.0	RW	156	336
32	Alton Parkway	Hospital to Laguna Canyon Road	72.0	82	177	381
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.8	80	171	369
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.8	RW	151	326
35	Alton Parkway	Foster to Irvine Boulevard	68.7	RW	148	319
36	Alton Parkway	Fairbanks to Foster	68.5	RW	144	311
37	Alton Parkway	Toledo Way to Bertea	68.4	RW	142	306
38	Alton Parkway	Pacifica to Meridian	71.7	77	167	359
39	Alton Parkway	Bertea to Fairbanks	68.3	RW	140	301
40	Alton Parkway	Meridian to Irvine Center Drive	68.3	RW	138	298
41	Alton Parkway	Paseo Westpark to San Marino	68.3	RW	139	298
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.7	RW	127	274
43	Astor	Lynx to Fairbanks	67.1	RW	52	111
44	Astor	Cadence to Lynx	65.9	RW	43	92
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.7	281	606	1306
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	73.0	134	288	620
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.1	219	472	1017
48	Bake Parkway	Jeronimo Road to Toledo Way	72.1	116	251	540
49	Bake Parkway	Toledo Way to Cromwell	71.7	109	235	507
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	107	230	496
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.6	RW	171	369
52	Bake Parkway	Irvine Center Drive to Research Drive	64.9	RW	RW	178
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.4	RW	RW	141
54	Banting	Alton Parkway to Barranca Parkway	60.3	RW	RW	65
55	Barranca Parkway	Pacifica to Irvine Center Drive	73.3	104	224	482
56	Barranca Parkway	Banting to Pacifica	72.8	96	207	446

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Table 7

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	73.0	99	213	459
58	Barranca Parkway	Technology Drive West to Ada	72.7	94	203	438
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	72.6	93	201	433
60	Barranca Parkway	Culver Drive to West Yale Loop	72.3	89	191	411
61	Barranca Parkway	East Yale Loop to Jeffrey Road	72.2	88	189	407
62	Barranca Parkway	West Yale Loop to Lake Road	72.1	86	185	398
63	Barranca Parkway	Ada to Alton Parkway	72.1	87	187	403
64	Barranca Parkway	Lake Road to Creek Road	71.8	82	177	382
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.7	207	447	962
66	Barranca Parkway	Discovery/Herchel to Banting	71.6	80	173	373
67	Barranca Parkway	Lyon to East Yale Loop	71.6	79	171	369
68	Barranca Parkway	Creek Road to Lyon	71.5	79	169	365
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.8	123	264	569
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	71.1	74	160	344
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.5	117	251	541
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.8	70	152	326
73	Barranca Parkway	Jamboree Road to Construction Circle	71.2	100	216	466
74	Barranca Parkway	Santa Rosa to Culver Drive	71.0	98	211	454
75	Barranca Parkway	FedEx to Discovery/Herchel	70.5	68	146	314
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	70.4	66	143	308
77	Barranca Parkway	Laguna Canyon Road to FedEx	70.4	66	143	308
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.7	175	378	814
79	Barranca Parkway	Construction Circle to Fire Station	70.6	92	199	429
80	Barranca Parkway	Fire Station to Harvard Avenue	70.6	92	199	429
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.6	92	197	425
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	70.2	87	187	403
83	Bay Tree	Trabuco Road to Roosevelt	57.1	RW	RW	RW
84	Beacon	Ridge Valley to Benchmark	59.7	RW	RW	RW
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.5	RW	RW	RW
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.6	RW	127	274
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.3	78	169	364

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Table 7

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.6	RW	130	280
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	RW	123	265
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	68.0	RW	119	257
91	Bosque	Cadence to Great Park Boulevard	65.2	RW	39	83
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.6	RW	RW	65
93	Bosque	Benchmark to Cadence	63.2	RW	RW	61
94	Bosque	Great Park Boulevard to Beacon	56.8	RW	RW	RW
95	Bosque	Beacon to S 5th Street	56.2	RW	RW	RW
96	Bryan Avenue	Jamboree Road to Market Place	69.0	RW	116	250
97	Bryan Avenue	Market Place to El Camino Real	68.9	RW	114	246
98	Bryan Avenue	Rubicon to Culver Drive	68.8	RW	113	242
99	Bryan Avenue	El Camino Real to Rubicon	68.8	RW	112	241
100	Bryan Avenue	Eastwood to Jeffrey Road	67.1	RW	87	187
101	Bryan Avenue	Westwood to Yale Avenue	66.8	RW	82	176
102	Bryan Avenue	Culver Drive to Westwood	66.7	RW	81	174
103	Bryan Avenue	Yale Avenue to Eastwood	66.7	RW	81	174
104	Cadence	Pusan to Chinon	65.6	RW	41	89
105	Cadence	Bosque to Pusan	65.3	RW	39	85
106	Cadence	Ridge Valley (O Street) to Bosque	64.0	RW	RW	70
107	Cadence	Chinon to Merit	62.3	RW	RW	54
108	Cadence	Merit to Astor	59.4	RW	RW	RW
109	California Avenue	University Drive to Academy Way	66.2	RW	76	163
110	California Avenue	Campus Drive to Harvard Avenue	64.2	RW	RW	119
111	California Avenue	Theory to Bison Avenue	63.9	RW	RW	113
112	Campus Drive	Carlson Avenue to University Drive	73.2	82	177	382
113	Campus Drive	University Drive to Bridge Road	71.8	83	178	384
114	Campus Drive	Jamboree Road to Carlson Avenue	71.5	79	170	366
115	Campus Drive	Stanford Court to Berkeley Avenue	71.1	74	159	343
116	Campus Drive	California Avenue to Culver Drive	70.9	72	155	334
117	Campus Drive	Berkeley Avenue to Cornell	70.0	RW	135	290
118	Campus Drive	Martin to Von Karman Avenue	69.1	RW	117	251

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Table 7

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.7	RW	111	239
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.4	RW	105	227
121	Campus Drive	MacArthur Boulevard to Martin	68.2	RW	103	221
122	Campus Drive	Teller Avenue to Jamboree Road	67.5	RW	92	198
123	Carlson Avenue	Michelson Drive to Campus Drive	67.9	RW	98	210
124	Chinon	Irvine Boulevard to Cadence	58.8	RW	RW	RW
125	Creek Road	Alton Parkway to Barranca Parkway	56.3	RW	RW	RW
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	74.0	154	332	715
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.9	152	327	705
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	154	331	713
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.8	151	325	701
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	146	314	677
131	Culver Drive	San Leandro to Main Street	73.3	140	301	649
132	Culver Drive	Harvard Avenue to University Drive	73.4	141	303	652
133	Culver Drive	Trabuco Road to Farwell Avenue	74.2	153	329	709
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	137	296	637
135	Culver Drive	Main Street to Alton Parkway	73.1	134	289	623
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	133	286	615
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.9	130	281	605
138	Culver Drive	Barranca Parkway to Warner Avenue	72.8	130	280	604
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.0	84	182	392
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.5	124	267	574
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	124	267	575
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	122	262	565
143	Culver Drive	Palo Verde to Campus Drive	71.6	80	172	370
144	Culver Drive	University Drive to Sandburg Way	72.2	118	253	546
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.2	130	281	605
146	Culver Drive	Campus Drive to High School	72.1	116	249	536
147	Culver Drive	High School to Harvard Avenue	72.0	114	246	530
148	Culver Drive	Bryan Avenue to Florence	71.8	110	238	512
149	Culver Drive	Portola Parkway to Settlers	71.2	75	162	348

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Table 7

150	Culver Drive	Florence to Irvine Boulevard	71.7	109	234	504
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	91	196	422
152	Culver Drive	Viewpark to Meadowood	70.4	89	191	413
153	Culver Drive	Settlers to Furrow	68.5	RW	107	230
154	Culver Drive	Meadowood to Portola Parkway	69.0	RW	154	332
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	65.5	RW	68	146
156	Discovery Drive	Waterworks Way to Irvine Center Drive	63.6	RW	RW	109
157	East Yale Loop	Alton Parkway to Witherspoon	65.6	RW	68	147
158	East Yale Loop	Osborn Street to Barranca Parkway	65.4	RW	66	143
159	East Yale Loop	Yale Avenue to Springbrook South	65.0	RW	63	135
160	East Yale Loop	Springbrook North to Alton Parkway	63.6	RW	RW	108
161	East Yale Loop	Woodspring to Yale Avenue	62.8	RW	RW	97
162	East Yale Loop	Barranca Parkway to Eastshore	62.4	RW	RW	90
163	Eastwood	Bryan Avenue to Monticello	60.8	RW	RW	43
164	Eastwood	Columbus to Bryan Avenue	58.8	RW	RW	RW
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.1	RW	87	187
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	RW	RW	91
167	Fairbanks	Alton Parkway to Astor	69.8	RW	79	170
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.9	RW	50	108
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.0	RW	RW	116
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	63.5	RW	RW	108
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	62.3	RW	RW	88
172	Gateway Boulevard	Irvine Center Drive to Meridian	59.2	RW	RW	RW
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.6	121	260	561
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.3	66	142	305
175	Great Park Boulevard (EB)	Bosque to Skyhawk	69.0	RW	69	150
176	Great Park Boulevard (WB)	Bosque to Skyhawk	68.4	RW	63	136
177	Harvard Avenue	University Drive to Michelson Drive	72.0	51	110	237
178	Harvard Avenue	Michelson Drive to Coronado	70.4	67	144	311
179	Harvard Avenue	San Marino to Alton Parkway	70.2	64	138	298
180	Harvard Avenue	Coronado to Main Street	70.1	64	137	296

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181	Harvard Avenue	San Carlo to San Marino	70.1	63	136	293
182	Harvard Avenue	Main Street to San Carlo	70.0	RW	134	290
183	Harvard Avenue	Alton Parkway to San Leon	68.8	RW	111	239
184	Harvard Avenue	San Juan to Barranca Parkway	68.8	RW	111	239
185	Harvard Avenue	San Leon to San Juan	68.6	RW	108	233
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.5	RW	92	198
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.4	RW	91	195
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.9	RW	97	209
189	Harvard Avenue	Bridge Road to University Drive	67.9	RW	97	209
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.8	RW	97	208
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.8	RW	90	194
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.4	RW	90	193
193	Harvard Avenue	Culver Drive to California Avenue	67.3	RW	89	191
194	Harvard Avenue	Berkeley to Bridge Road	67.2	RW	87	187
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.7	RW	82	176
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	RW	RW	RW
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.5	RW	RW	RW
198	Hubble	Irvine Center Drive to Bunsen	55.9	RW	RW	RW
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.2	118	255	549
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.2	117	253	545
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.0	127	273	587
202	Irvine Boulevard	Merit to Alton	71.6	108	232	500
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.6	107	230	496
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.1	100	215	464
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	98	211	455
206	Irvine Boulevard	Palo Lado to Yale Avenue	71.2	102	219	471
207	Irvine Boulevard	Culver Drive to Palo Lado	71.2	101	217	468
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	71.1	99	213	459
209	Irvine Boulevard	Old Myford Road to Market Place	71.1	99	214	461
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	71.1	100	216	465
211	Irvine Boulevard	Jamboree Road to Old Myford Road	71.0	98	211	455

Table 7

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	71.0	98	210	453
213	Irvine Boulevard	Jeffrey Road to Groveland	70.9	96	208	448
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.5	91	196	423
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to JeffreyRoad	70.7	94	202	434
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	90	194	418
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.6	92	198	427
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.5	90	194	419
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.4	90	194	417
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	87	188	404
221	Irvine Boulevard	Central Park Avenue to Culver Drive	70.0	84	180	388
222	Irvine Boulevard	Parker to Bake Parkway	69.6	RW	171	368
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	RW	146	315
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.7	121	260	560
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	72.0	114	246	530
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.2	112	241	520
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.9	113	243	523
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.7	108	234	503
229	Irvine Center Drive	Culver Drive to Deerwood	71.6	108	232	500
230	Irvine Center Drive	Deerwood to Yale Avenue	71.6	107	231	497
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	71.6	108	232	500
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.5	106	228	492
233	Irvine Center Drive	Alton Parkway to Spectrum	71.3	103	221	476
234	Irvine Center Drive	Spectrum to Pacifica	71.3	102	219	472
235	Irvine Center Drive	Hearthstone to Culver Drive	71.0	98	211	454
236	Irvine Center Drive	Charter to Barranca Parkway	70.9	97	208	449
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.6	92	197	425
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.7	93	201	433
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.7	93	201	433
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.3	88	191	410
241	Irvine Center Drive	Research to Hubble	69.8	RW	175	376
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	70.1	85	184	396

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Table 7

243	Irvine Center Drive	Bake Parkway to Muller	69.7	RW	173	373
244	Irvine Center Drive	Discovery to Charter	70.2	87	186	402
245	Irvine Center Drive	Hubble to Bake Parkway	69.5	RW	167	361
246	Irvine Center Drive	Muller to Tesla	69.3	RW	162	350
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.4	RW	165	355
248	Irvine Center Drive	Tesla to Scientific Way	68.9	RW	153	329
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.7	RW	148	319
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.8	RW	151	325
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.8	RW	151	326
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.8	RW	151	326
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	71.0	98	211	454
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	168	362	780
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.6	190	409	881
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.9	153	329	709
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	77.0	293	631	1359
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.6	146	314	677
259	Jamboree Road	Main Street to Kelvin Avenue	76.4	266	573	1235
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.4	216	466	1003
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	76.0	253	545	1174
262	Jamboree Road	McGaw Avenue to Alton Parkway	76.0	251	540	1164
263	Jamboree Road	Birch Street to Campus Drive	73.0	134	288	621
264	Jamboree Road	Dupont Drive to Michelson Drive	73.9	146	316	680
265	Jamboree Road	Alton Parkway to Beckman	75.6	236	508	1094
266	Jamboree Road	Fairchild Road to Birch Street	73.5	138	297	640
267	Jamboree Road	Beckman to Barranca Parkway	75.3	224	483	1040
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	218	470	1013
269	Jamboree Road	Campus Drive to Dupont Drive	73.2	130	280	603
270	Jamboree Road	El Camino Real to West Drive	75.0	214	461	993
271	Jamboree Road	West Drive to Bryan Avenue	74.9	214	461	992
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.6	204	438	945
273	Jamboree Road	Koll Center to Fairchild Road	72.8	124	266	574

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Table 7

274	Jamboree Road	MacArthur Boulevard to Koll Center	72.8	123	265	571
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.7	94	202	434
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.2	261	563	1212
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.3	230	495	1066
278	Jamboree Road	Edinger Avenue to Walnut Avenue	78.0	218	469	1010
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.4	104	224	483
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.3	114	245	529
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.9	97	209	450
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.9	97	209	450
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.7	94	203	437
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.9	97	209	450
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.7	93	201	434
286	Jeffrey Road	Quail Creek to Alton Parkway	70.8	95	204	439
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.5	90	194	418
288	Jeffrey Road	Trabuco Road to Hideaway	69.6	RW	171	369
289	Jeffrey Road	Hideaway to Bryan Avenue	69.6	RW	171	369
290	Jeffrey Road	Roosevelt to Grove	70.4	85	184	396
291	Jeffrey Road	Grove to Trabuco Road	70.2	82	177	382
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.5	RW	143	309
293	Jeffrey Road	Encore to Portola Parkway	65.8	RW	94	203
294	Jeffrey Road	Irvine Boulevard to Encore	65.5	RW	90	195
295	Jeronimo Road	Goodyear to Bake Parkway	64.6	RW	RW	127
296	Jeronimo Road	Alton Parkway to Goodyear	64.3	RW	RW	121
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.3	139	299	645
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	69.9	RW	133	287
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	69.5	RW	125	270
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	67.9	RW	79	169
301	Laguna Canyon Road	Irvine Center Drive to Discovery	69.0	RW	115	249
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	67.9	RW	79	169
303	Laguna Canyon Road	Pasteur to Alton Parkway	67.0	RW	85	184
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	67.5	RW	92	198

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Table 7

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.3	RW	77	166
306	Laguna Canyon Road	Barranca Parkway to Waterworks	66.2	RW	75	162
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.4	RW	122	264
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.3	RW	122	262
309	Lake Forest Drive	Tesla to Bake Parkway	66.4	RW	104	225
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	RW	RW	RW
311	Lynx	Irvine Boulevard to Astor	53.2	RW	RW	RW
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.7	282	607	1308
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.7	278	599	1291
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.6	276	594	1279
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	RW	178	382
316	MacArthur Boulevard	Fairchild Road to University Drive	69.8	RW	176	380
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	87	187	403
318	MacArthur Boulevard	Michelson Drive to Douglas	72.2	140	302	650
319	MacArthur Boulevard	Douglas to Campus Drive	72.1	139	299	644
320	MacArthur Boulevard	Skypark to Main Street	69.5	RW	159	343
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.3	RW	140	302
322	MacArthur Boulevard	Birch Street to Jamboree Road	67.1	RW	115	248
323	MacArthur Boulevard	Campus Drive to Birch Street	69.3	RW	194	418
324	Main Street	Gillette Avenue to Von Karman Avenue	70.9	92	197	425
325	Main Street	MacArthur Boulevard to Mercantile	70.3	84	180	388
326	Main Street	Executive Park to MacArthur Boulevard	68.4	RW	142	307
327	Main Street	Von Karman Avenue to Cartwright	68.5	RW	143	308
328	Main Street	McDurmott to Red Hill Avenue	68.1	RW	135	291
329	Main Street	Red Hill Avenue to Executive Circle	68.0	RW	133	287
330	Main Street	Jamboree Road to Union	67.8	RW	130	280
331	Main Street	Culver Drive to West Yale Loop	67.2	RW	87	188
332	Main Street	Siglo to Jamboree Road	67.7	RW	128	275
333	Main Street	Veneto to Harvard Avenue	67.5	RW	124	268
334	Main Street	Paseo Westpark to Culver Drive	66.3	RW	77	165
335	Main Street	Harvard Avenue to San Mateo	66.3	RW	76	164

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Table 7

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.3	71	154	332
337	Marine Way	Alton Parkway to Bake Parkway	69.4	RW	124	266
338	Marine Way	Lynx to Barranca Parkway	69.3	RW	121	261
339	Marine Way	County Access to Treble	68.5	RW	106	229
340	Marine Way	Ridge Valley (O Street) to Skyhawk	68.3	RW	104	224
341	Marine Way	Skyhawk to County Access	67.4	RW	90	194
342	Marine Way	Barranca Parkway to Alton Parkway	66.8	RW	82	177
343	Marine Way	Treble to Lynx	66.5	RW	79	170
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	64.5	RW	RW	124
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	64.3	RW	RW	122
346	McGaw Avenue	Daimler to Red Hill Avenue	62.4	RW	RW	91
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.6	RW	RW	RW
348	Meadowood	Culver Drive to Canyonwood	59.8	RW	RW	RW
349	Meridian	Spectrum to Alton Parkway	55.6	RW	RW	RW
350	Meridian	Alton Parkway to Gateway Boulevard	54.7	RW	RW	RW
351	Merit	Irvine Boulevard to Cadence	58.0	RW	RW	RW
352	Michelson Drive	Riparian to Harvard Avenue	68.3	RW	104	223
353	Michelson Drive	Almond Tree Lane to Yale Avenue	67.2	RW	52	113
354	Michelson Drive	Von Karman Avenue to Obsidian	68.2	RW	101	218
355	Michelson Drive	Parkside to Culver Drive	67.8	RW	96	206
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.9	RW	50	108
357	Michelson Drive	Carlson to Prince	67.3	RW	107	231
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.5	RW	92	197
359	Michelson Drive	Harvard Avenue to Parkside	66.8	RW	83	178
360	Michelson Drive	Bixby to Von Karman Avenue	66.8	RW	83	179
361	Michelson Drive	Jamboree Road to Carlson	69.6	RW	122	263
362	Michelson Drive	Teller to Jamboree Road	69.6	RW	122	262
363	Michelson Drive	Jordan East to University Drive	67.1	RW	41	89
364	Michelson Drive	Culver Drive to Angell	66.3	RW	49	105
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	39	84	181
366	Modjeska (A Street)	South of Irvine Boulevard	61.1	RW	RW	44

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367	Muirlands Boulevard	Bake Parkway to City Limits	67.2	RW	88	189
368	Muirlands Boulevard	Alton Parkway to Sterling	66.3	RW	76	165
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.3	RW	76	165
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.6	RW	80	173
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.1	RW	63	137
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	61.8	RW	RW	82
373	Northwood	Yale Avenue to Savannah	62.5	RW	RW	55
374	Northwood	Goldrush to Yale Avenue	61.5	RW	RW	47
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	69.7	RW	77	165
376	Pacifica	Gateway to Barranca Parkway	65.3	RW	65	140
377	Pacifica	Alton Parkway to Gateway	64.1	RW	RW	117
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	62.7	RW	RW	94
379	Pacifica	Meridian to Alton Parkway	60.9	RW	RW	71
380	Park Place	Christamon South to Yale Avenue	57.0	RW	RW	RW
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.7	81	175	377
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.7	81	175	376
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.4	78	168	361
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	71.1	73	158	341
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.1	63	136	293
386	Portola Parkway	Gatepark to Culver Drive	70.7	94	203	437
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.7	93	201	433
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.6	91	197	424
389	Portola Parkway	Jamboree Road to Bellevue	70.5	91	195	421
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.5	90	194	418
391	Portola Parkway	Yale Avenue to Jeffrey Road	70.2	87	188	405
392	Portola Parkway	Culver Drive to Yale Avenue	69.7	RW	172	371
393	Portola Parkway	Silverado to Portola Springs	68.6	RW	108	233
394	Pusan	Irvine Boulevard to Cadence	56.2	RW	RW	RW
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.5	RW	91	197
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.4	RW	67	143
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.9	RW	RW	RW

Table 7

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.6	107	230	495
399	Red Hill Avenue	I-405 Over Crossing to Main Street	70.2	65	139	300
400	Red Hill Avenue	Alton Parkway to Deere Avenue	70.1	85	183	394
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.9	RW	180	387
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.8	RW	175	377
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.4	74	160	345
404	Red Hill Avenue	Main Street to Skypark East	70.8	67	145	313
405	Research Drive	Hubble to Bake Parkway	69.6	RW	127	273
406	Research Drive	Scientific to Lake Forest Drive	67.4	RW	90	194
407	Research Drive	Bake Parkway to Muller	66.7	RW	81	173
408	Research Drive	Irvine Center Drive to Bunsen	65.7	RW	70	150
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.3	RW	89	192
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.4	RW	77	166
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	RW	73	157
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	RW	RW	RW
413	Ridgeline Drive	Concordia East to University Drive	68.8	RW	71	154
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.5	RW	68	146
415	Rockfield Avenue	Whatney to McLaren	67.7	RW	95	204
416	Rockfield Avenue	Bake Parkway to Whatney	64.3	RW	RW	121
417	Rockfield Avenue	Thomas to Bake Parkway	63.1	RW	RW	101
418	Roosevelt	Jeffrey Road to Vision	66.6	RW	80	172
419	Roosevelt	Yale Avenue to Van Buren	68.3	RW	50	107
420	Roosevelt	Vision to Bay Tree	66.3	RW	77	166
421	Roosevelt	Nimitz to Jeffrey Road	65.9	RW	71	154
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.6	RW	69	148
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	RW	RW	56
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	72.2	117	252	543
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	72.0	113	244	526
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.7	123	264	569
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.7	122	263	566
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.6	204	440	947

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Table 7

429	Sand Canyon Avenue	Trabuco Road to Towngate	71.0	98	211	454
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	70.9	97	209	450
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	73.9	181	389	838
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.8	95	205	441
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.5	172	371	799
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.6	104	224	482
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.5	171	368	793
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.3	89	191	411
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.2	87	187	404
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	69.2	RW	118	255
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	153	331	712
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.8	90	195	420
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.8	79	170	366
442	Scientific Way	Irvine Center Drive to Wald	55.0	RW	RW	RW
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	69.3	RW	73	156
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.7	RW	76	163
445	Skyhawk	Great Park Boulevard to Marine Way	59.6	13	27	58
446	Southwood	Yale Avenue to Colt	60.6	9	19	41
447	Southwood	Challenger to Yale Avenue	60.4	9	18	40
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	62.0	18	39	85
449	Spectrum Center Drive (FortuneDrive)	Quassar Drive (Spectrum) to Gatewayb	62.5	20	42	91
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.7	9	20	44
451	Technology Drive	Barranca Parkway to Alton Parkway	70.8	71	152	327
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	69.6	59	126	272
453	Technology Drive	I-5/SR-133 to Barranca Parkway	69.4	57	123	265
454	Technology Drive	Ada to Alton Parkway	63.7	24	51	110
455	Toledo Way	Bake Parkway to City Limits	65.6	32	69	148
456	Toledo Way	Goodyear to Bake Parkway	64.7	28	60	129
457	Toledo Way	Alton Parkway to Parker	64.5	27	57	124
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.2	41	88	189
459	Trabuco Road	Jeffrey Road to Keystone	67.1	40	86	185

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Table 7

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.8	38	83	178
461	Trabuco Road	Monroe to Yale Avenue	66.8	38	83	178
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.7	38	81	175
463	Trabuco Road	Yale Avenue to Remington	66.4	36	78	167
464	Trabuco Road	Remington to Jeffrey Road	66.1	35	74	160
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.7	51	111	239
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.9	27	58	125
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.8	27	58	124
468	Turtle Rock Drive	Canyon Park to Ridgeline	67.1	24	52	111
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	15	32	70
470	Turtle Rock Drive	Campus Drive to Hillgate	64.1	25	55	118
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.5	20	43	92
472	University Drive	Golden Glow to Yale Avenue	73.0	99	214	461
473	University Drive	Ridgeline to Michelson Drive	72.6	112	240	518
474	University Drive	Culver Drive to Golden Glow	72.9	97	210	452
475	University Drive	Yale Avenue to Ridgeline	72.4	90	194	418
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.7	128	276	594
477	University Drive	Mesa to Campus Drive	74.5	120	259	559
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.4	119	255	550
479	University Drive	California Avenue to Mesa	74.4	119	256	551
480	University Drive	Campus Drive to Harvard Avenue	70.7	94	202	436
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.6	64	137	295
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.2	87	187	402
483	University Drive	San Joaquin to Culver Drive	69.8	82	177	381
484	University Drive	Harvard Avenue to San Joaquin	69.8	82	176	380
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.1	47	101	217
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	69.6	47	101	217
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	67.1	40	87	186
488	Valley Oak Drive	Alton Parkway to Hawkcreek	64.9	29	62	133
489	Von Karman Avenue	Marriott to Morse Avenue	71.0	73	157	338
490	Von Karman Avenue	Michelson Drive to Quartz	70.9	71	153	331

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Table 7

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.8	70	152	327
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	70.4	80	172	369
493	Von Karman Avenue	Main Street to Anchor	70.7	69	149	322
494	Von Karman Avenue	Anchor to McGaw Avenue	70.5	68	146	314
495	Von Karman Avenue	Morse to Main Street	70.3	65	140	303
496	Von Karman Avenue	Martin to Dupont Drive	69.6	59	127	274
497	Von Karman Avenue	Campus Drive to Martin	69.5	58	125	270
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.5	58	125	269
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	70.9	72	156	335
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	69.1	55	118	254
501	Walnut Avenue	The Mall Street to Culver Drive	68.8	52	112	242
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.8	52	112	242
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.5	49	106	229
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.5	50	107	230
505	Walnut Avenue	Culver Drive to Franciscan Street	68.4	49	105	225
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	68.0	62	134	289
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.9	61	130	281
508	Walnut Avenue	Yale Avenue to Kazan Street	67.3	41	89	191
509	Walnut Avenue	Wisteria to Jeffrey Road	67.2	41	88	189
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.2	64	139	299
511	Warner Avenue	Construction North to Harvard Avenue	68.6	51	109	235
512	Warner Avenue	Harvard Avenue to Paseo Westpark	67.1	40	86	185
513	Warner Avenue	Santa Ynez to Culver Drive	66.2	35	75	161
514	Warner Avenue	Culver Drive to West Yale Loop	65.8	33	71	153
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	25	54	116
516	West Yale Loop	Eagle Run to Main Street	63.9	24	52	113
517	West Yale Loop	Thunder Run to Yale Avenue	64.0	25	53	115
518	West Yale Loop	Main Street to Timber Run	62.8	21	45	97
519	West Yale Loop	Yale Avenue to Shorebird	63.2	22	47	102
520	West Yale Loop	Warner Avenue to Stonecreek South	62.7	20	44	94
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	20	42	91

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Table 7

522	West Yale Loop	Stonecreek North to Warner Avenue	62.6	20	43	93
523	West Yale Loop	Birdsong to Barranca Parkway	62.4	19	42	90
524	Westwood	Yorktown to Bryan Avenue	63.5	14	30	64
525	Westwood	Bryan Avenue to Leaf	61.6	10	22	48
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	30	65	141
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.3	25	54	116
528	Yale Avenue	Walnut Avenue to Roosevelt	71.1	47	102	219
529	Yale Avenue	Roosevelt to Trabuco Road	67.1	40	86	185
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.9	39	83	179
531	Yale Avenue	West Yale Loop to Irvine Center Drive	66.5	36	78	169
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.7	32	70	150
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.7	32	70	150
534	Yale Avenue	Trabuco Road to Southwood	65.6	32	69	148
535	Yale Avenue	Southwood to Bryan Avenue	65.4	31	66	143
536	Yale Avenue	Northwood to Irvine Boulevard	65.1	30	64	137
537	Yale Avenue	Bryan Avenue to Monticello	65.0	29	62	134
538	Yale Avenue	Irvine Boulevard to Park Place	64.2	26	56	120
539	Yale Avenue	University Drive to Royce	63.6	19	40	87
540	Yale Court	Arborwood to Portola Parkway	60.4	9	18	40

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

Table 8: Conservative Cumualtive Plan Conditions Noise Contours

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ada	Barranca Parway to Marine Way	70.8	42	91	196
2	Ada	Alton Parkway to Barranca PArkway	69.3	RW	120	259
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	74.1	159	342	737
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	74.8	167	360	776
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.8	83	179	385
6	Alton Parkway	Gateway Boulevard to Enterprise	72.0	114	246	529
7	Alton Parkway	Jeffrey Road to Royal Oak	70.9	72	155	335
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.7	69	149	322
9	Alton Parkway	Culver Drive to West Yale Loop	70.7	69	150	322
10	Alton Parkway	West Yale Loop to Lake Road	70.7	70	150	323
11	Alton Parkway	Technology Drive West to Ada	72.6	120	259	558
12	Alton Parkway	Creek Road to East Yale Loop	70.7	69	149	321
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	70.6	69	148	319
14	Alton Parkway	Lake Road to Creek Road	70.4	67	144	310
15	Alton Parkway	Telemetry to Banting	70.5	67	144	311
16	Alton Parkway	Irvine Boulevard to Commercentre	70.8	96	206	444
17	Alton Parkway	Jenner to Telemetry	70.4	66	143	308
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	71.3	102	220	475
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.7	106	227	490
20	Alton Parkway	Laguna Canyon Road to Jenner	70.3	65	141	303
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	71.2	101	219	471
22	Alton Parkway	Royal Oak to Valley Oak Drive	70.1	64	137	295
23	Alton Parkway	Banting to Pacifica	70.1	63	136	293
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	71.0	97	210	452
25	Alton Parkway	Ada to Technology Drive East	70.7	94	202	435

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Table 8

26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.8	RW	130	281
27	Alton Parkway	Jeronimo Road to Hughes	69.9	RW	178	384
28	Alton Parkway	Hughes to Morgan	69.8	RW	174	376
29	Alton Parkway	Morgan to Toledo Way	69.1	RW	157	339
30	Alton Parkway	San Marino to Culver Drive	69.2	RW	160	345
31	Alton Parkway	Jamboree Road to Murphy Avenue	69.2	RW	161	347
32	Alton Parkway	Hospital to Laguna Canyon Road	72.1	83	178	384
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.9	80	172	371
34	Alton Parkway	Murphy Avenue to Harvard Avenue	69.0	RW	156	335
35	Alton Parkway	Foster to Irvine Boulevard	68.7	RW	149	321
36	Alton Parkway	Fairbanks to Foster	68.6	RW	145	313
37	Alton Parkway	Toledo Way to Bertea	68.4	RW	142	306
38	Alton Parkway	Pacifica to Meridian	71.7	78	169	364
39	Alton Parkway	Bertea to Fairbanks	68.3	RW	140	301
40	Alton Parkway	Meridian to Irvine Center Drive	68.3	RW	139	300
41	Alton Parkway	Paseo Westpark to San Marino	68.3	RW	139	300
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.9	RW	130	280
43	Astor	Lynx to Fairbanks	67.1	RW	52	112
44	Astor	Cadence to Lynx	65.9	RW	43	93
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.7	282	607	1307
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	73.1	134	289	624
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.1	220	474	1020
48	Bake Parkway	Jeronimo Road to Toledo Way	72.2	117	252	543
49	Bake Parkway	Toledo Way to Cromwell	71.7	110	236	509
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	107	231	498
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.7	RW	173	372
52	Bake Parkway	Irvine Center Drive to Research Drive	65.1	RW	85	184
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.7	RW	RW	149
54	Banting	Alton Parkway to Barranca Parkway	60.3	RW	RW	65
55	Barranca Parkway	Pacifica to Irvine Center Drive	73.3	104	224	483
56	Barranca Parkway	Banting to Pacifica	72.8	97	208	448

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Table 8

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	73.0	99	213	460
58	Barranca Parkway	Technology Drive West to Ada	72.7	95	204	440
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	72.6	94	202	434
60	Barranca Parkway	Culver Drive to West Yale Loop	72.3	89	191	412
61	Barranca Parkway	East Yale Loop to Jeffrey Road	72.3	88	190	410
62	Barranca Parkway	West Yale Loop to Lake Road	72.1	86	185	399
63	Barranca Parkway	Ada to Alton Parkway	72.2	87	188	404
64	Barranca Parkway	Lake Road to Creek Road	71.8	83	178	383
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.8	209	451	972
66	Barranca Parkway	Discovery/Herchel to Banting	71.7	81	174	375
67	Barranca Parkway	Lyon to East Yale Loop	71.6	80	172	371
68	Barranca Parkway	Creek Road to Lyon	71.5	79	170	367
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.8	123	264	569
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	71.1	75	161	346
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.5	118	254	546
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.8	71	153	329
73	Barranca Parkway	Jamboree Road to Construction Circle	71.2	101	217	467
74	Barranca Parkway	Santa Rosa to Culver Drive	71.1	99	213	459
75	Barranca Parkway	FedEx to Discovery/Herchel	70.6	68	147	316
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	70.5	67	145	313
77	Barranca Parkway	Laguna Canyon Road to FedEx	70.4	67	144	310
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.6	175	377	812
79	Barranca Parkway	Construction Circle to Fire Station	70.6	93	200	430
80	Barranca Parkway	Fire Station to Harvard Avenue	70.6	93	200	430
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.6	93	200	430
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	70.3	88	191	411
83	Bay Tree	Trabuco Road to Roosevelt	57.1	RW	RW	RW
84	Beacon	Ridge Valley to Benchmark	59.7	RW	RW	RW
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.5	RW	RW	RW
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.7	RW	128	276
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.3	79	169	364

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Table 8

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.6	RW	130	281
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	RW	123	266
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	68.1	RW	120	258
91	Bosque	Cadence to Great Park Boulevard	65.2	RW	39	84
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.6	RW	RW	65
93	Bosque	Benchmark to Cadence	63.2	RW	RW	61
94	Bosque	Great Park Boulevard to Beacon	56.8	RW	RW	RW
95	Bosque	Beacon to S 5th Street	56.2	RW	RW	RW
96	Bryan Avenue	Jamboree Road to Market Place	69.1	RW	117	252
97	Bryan Avenue	Market Place to El Camino Real	68.8	RW	113	243
98	Bryan Avenue	Rubicon to Culver Drive	68.9	RW	114	245
99	Bryan Avenue	El Camino Real to Rubicon	68.9	RW	113	243
100	Bryan Avenue	Eastwood to Jeffrey Road	67.2	RW	88	189
101	Bryan Avenue	Westwood to Yale Avenue	66.8	RW	82	178
102	Bryan Avenue	Culver Drive to Westwood	66.7	RW	81	175
103	Bryan Avenue	Yale Avenue to Eastwood	66.8	RW	82	176
104	Cadence	Pusan to Chinon	65.6	RW	41	89
105	Cadence	Bosque to Pusan	65.3	RW	39	85
106	Cadence	Ridge Valley (O Street) to Bosque	64.0	RW	RW	69
107	Cadence	Chinon to Merit	62.4	RW	RW	54
108	Cadence	Merit to Astor	59.4	RW	RW	RW
109	California Avenue	University Drive to Academy Way	67.3	RW	89	191
110	California Avenue	Campus Drive to Harvard Avenue	64.2	RW	RW	119
111	California Avenue	Theory to Bison Avenue	64.0	RW	RW	115
112	Campus Drive	Carlson Avenue to University Drive	73.3	83	180	387
113	Campus Drive	University Drive to Bridge Road	71.8	82	177	381
114	Campus Drive	Jamboree Road to Carlson Avenue	71.6	80	172	371
115	Campus Drive	Stanford Court to Berkeley Avenue	71.1	74	159	342
116	Campus Drive	California Avenue to Culver Drive	70.9	72	155	334
117	Campus Drive	Berkeley Avenue to Cornell	69.9	RW	133	287
118	Campus Drive	Martin to Von Karman Avenue	69.2	RW	120	258

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Table 8

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.7	RW	111	239
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.5	RW	107	231
121	Campus Drive	MacArthur Boulevard to Martin	68.3	RW	104	224
122	Campus Drive	Teller Avenue to Jamboree Road	67.6	RW	93	201
123	Carlson Avenue	Michelson Drive to Campus Drive	67.9	RW	98	211
124	Chinon	Irvine Boulevard to Cadence	58.8	RW	RW	RW
125	Creek Road	Alton Parkway to Barranca Parkway	56.3	RW	RW	RW
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.9	154	331	713
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.8	151	326	703
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	154	331	714
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.8	151	325	701
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	146	315	679
131	Culver Drive	San Leandro to Main Street	73.3	140	301	649
132	Culver Drive	Harvard Avenue to University Drive	73.4	140	303	652
133	Culver Drive	Trabuco Road to Farwell Avenue	74.2	153	329	708
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	137	295	637
135	Culver Drive	Main Street to Alton Parkway	73.1	135	290	625
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	133	287	618
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.8	130	280	604
138	Culver Drive	Barranca Parkway to Warner Avenue	72.9	131	282	607
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.0	84	182	392
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.5	124	267	574
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	124	267	575
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	122	263	567
143	Culver Drive	Palo Verde to Campus Drive	71.6	80	172	370
144	Culver Drive	University Drive to Sandburg Way	72.2	118	253	545
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.2	131	281	606
146	Culver Drive	Campus Drive to High School	72.1	116	250	539
147	Culver Drive	High School to Harvard Avenue	72.0	114	246	530
148	Culver Drive	Bryan Avenue to Florence	71.8	111	238	513
149	Culver Drive	Portola Parkway to Settlers	71.2	76	163	350

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Table 8

150	Culver Drive	Florence to Irvine Boulevard	71.7	109	235	505
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	91	196	422
152	Culver Drive	Viewpark to Meadowood	70.4	89	191	412
153	Culver Drive	Settlers to Furrow	68.6	RW	108	233
154	Culver Drive	Meadowood to Portola Parkway	69.0	RW	154	333
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	65.5	RW	68	146
156	Discovery Drive	Waterworks Way to Irvine Center Drive	63.6	RW	RW	109
157	East Yale Loop	Alton Parkway to Witherspoon	65.6	RW	69	148
158	East Yale Loop	Osborn Street to Barranca Parkway	65.4	RW	66	143
159	East Yale Loop	Yale Avenue to Springbrook South	65.0	RW	63	136
160	East Yale Loop	Springbrook North to Alton Parkway	63.6	RW	RW	109
161	East Yale Loop	Woodspring to Yale Avenue	62.9	RW	RW	97
162	East Yale Loop	Barranca Parkway to Eastshore	62.5	RW	RW	92
163	Eastwood	Bryan Avenue to Monticello	60.9	RW	RW	43
164	Eastwood	Columbus to Bryan Avenue	58.9	RW	RW	RW
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.2	RW	87	188
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	RW	RW	90
167	Fairbanks	Alton Parkway to Astor	69.9	RW	79	171
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.9	RW	50	108
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.0	RW	RW	116
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	63.5	RW	RW	107
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	62.2	RW	RW	88
172	Gateway Boulevard	Irvine Center Drive to Meridian	59.2	RW	RW	RW
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.6	121	261	562
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.4	66	143	307
175	Great Park Boulevard (EB)	Bosque to Skyhawk	69.1	RW	71	152
176	Great Park Boulevard (WB)	Bosque to Skyhawk	68.4	RW	63	136
177	Harvard Avenue	University Drive to Michelson Drive	72.1	51	111	239
178	Harvard Avenue	Michelson Drive to Coronado	70.5	67	145	313
179	Harvard Avenue	San Marino to Alton Parkway	70.3	65	140	302
180	Harvard Avenue	Coronado to Main Street	70.2	64	138	298

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Table 8

181	Harvard Avenue	San Carlo to San Marino	70.2	64	138	297
182	Harvard Avenue	Main Street to San Carlo	70.1	63	136	293
183	Harvard Avenue	Alton Parkway to San Leon	68.6	RW	109	234
184	Harvard Avenue	San Juan to Barranca Parkway	68.7	RW	110	236
185	Harvard Avenue	San Leon to San Juan	68.6	RW	108	233
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.5	RW	92	197
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.4	RW	91	195
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.9	RW	97	210
189	Harvard Avenue	Bridge Road to University Drive	67.8	RW	97	208
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.8	RW	96	207
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.9	RW	90	195
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.3	RW	89	193
193	Harvard Avenue	Culver Drive to California Avenue	67.3	RW	88	191
194	Harvard Avenue	Berkeley to Bridge Road	67.2	RW	87	188
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.8	RW	82	176
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	RW	RW	RW
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.5	RW	RW	RW
198	Hubble	Irvine Center Drive to Bunsen	56.1	RW	RW	RW
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.3	119	256	552
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.2	118	254	547
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.0	128	275	592
202	Irvine Boulevard	Merit to Alton	71.6	108	232	500
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.7	109	236	507
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.2	100	216	466
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	98	211	455
206	Irvine Boulevard	Palo Lado to Yale Avenue	71.3	103	223	480
207	Irvine Boulevard	Culver Drive to Palo Lado	71.3	103	221	476
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	71.1	100	215	464
209	Irvine Boulevard	Old Myford Road to Market Place	71.2	101	217	467
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	71.2	101	217	468
211	Irvine Boulevard	Jamboree Road to Old Myford Road	71.1	99	214	461

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Table 8

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	71.1	99	213	459
213	Irvine Boulevard	Jeffrey Road to Groveland	71.1	100	215	464
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.6	92	198	426
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to JeffreyRoad	70.8	94	204	438
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	90	194	418
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.7	93	200	431
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.6	92	197	425
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.5	91	197	423
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	87	188	404
221	Irvine Boulevard	Central Park Avenue to Culver Drive	70.0	84	182	392
222	Irvine Boulevard	Parker to Bake Parkway	69.7	RW	173	372
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	RW	146	315
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.8	122	263	567
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	72.0	115	247	532
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.3	114	246	529
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.9	113	244	525
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.7	109	236	507
229	Irvine Center Drive	Culver Drive to Deerwood	71.6	108	233	502
230	Irvine Center Drive	Deerwood to Yale Avenue	71.6	108	232	499
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	71.7	109	234	504
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.5	106	229	493
233	Irvine Center Drive	Alton Parkway to Spectrum	71.4	103	223	480
234	Irvine Center Drive	Spectrum to Pacifica	71.3	103	221	476
235	Irvine Center Drive	Hearthstone to Culver Drive	71.0	98	211	455
236	Irvine Center Drive	Charter to Barranca Parkway	71.0	97	210	452
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.6	92	198	426
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.7	94	203	437
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.7	94	202	435
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.3	89	191	411
241	Irvine Center Drive	Research to Hubble	70.0	84	180	389
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	70.2	86	185	399

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Table 8

243	Irvine Center Drive	Bake Parkway to Muller	69.8	RW	176	380
244	Irvine Center Drive	Discovery to Charter	70.2	87	188	405
245	Irvine Center Drive	Hubble to Bake Parkway	69.6	RW	170	365
246	Irvine Center Drive	Muller to Tesla	69.4	RW	165	355
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.4	RW	165	356
248	Irvine Center Drive	Tesla to Scientific Way	69.1	RW	156	337
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.9	RW	152	328
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.9	RW	153	330
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.9	RW	153	329
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.9	RW	152	327
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	71.1	99	213	458
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	168	362	780
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.7	191	411	885
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.9	153	329	709
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	77.0	293	632	1362
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.6	146	314	676
259	Jamboree Road	Main Street to Kelvin Avenue	76.4	268	577	1244
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.4	217	467	1007
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	76.1	255	549	1183
262	Jamboree Road	McGaw Avenue to Alton Parkway	76.0	253	545	1174
263	Jamboree Road	Birch Street to Campus Drive	73.1	135	291	626
264	Jamboree Road	Dupont Drive to Michelson Drive	74.0	148	318	685
265	Jamboree Road	Alton Parkway to Beckman	75.7	238	513	1106
266	Jamboree Road	Fairchild Road to Birch Street	73.6	139	300	646
267	Jamboree Road	Beckman to Barranca Parkway	75.3	226	487	1049
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	218	470	1013
269	Jamboree Road	Campus Drive to Dupont Drive	73.2	131	283	610
270	Jamboree Road	El Camino Real to West Drive	74.9	213	458	988
271	Jamboree Road	West Drive to Bryan Avenue	74.9	213	460	991
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.6	202	436	939
273	Jamboree Road	Koll Center to Fairchild Road	72.9	125	269	580

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Table 8

274	Jamboree Road	MacArthur Boulevard to Koll Center	72.8	124	267	575
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.7	93	201	433
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.2	261	563	1213
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.4	231	497	1072
278	Jamboree Road	Edinger Avenue to Walnut Avenue	78.0	218	470	1012
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.4	104	225	485
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.3	115	247	532
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	71.0	97	210	452
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.9	97	209	451
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.8	94	203	438
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	71.0	97	210	452
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.7	93	201	434
286	Jeffrey Road	Quail Creek to Alton Parkway	70.8	95	205	442
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.5	90	194	419
288	Jeffrey Road	Trabuco Road to Hideaway	69.7	RW	173	372
289	Jeffrey Road	Hideaway to Bryan Avenue	69.7	RW	173	372
290	Jeffrey Road	Roosevelt to Grove	70.4	85	184	396
291	Jeffrey Road	Grove to Trabuco Road	70.2	82	177	382
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.6	RW	145	312
293	Jeffrey Road	Encore to Portola Parkway	65.5	RW	91	196
294	Jeffrey Road	Irvine Boulevard to Encore	65.4	RW	89	191
295	Jeronimo Road	Goodyear to Bake Parkway	64.6	RW	RW	127
296	Jeronimo Road	Alton Parkway to Goodyear	64.3	RW	RW	121
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.4	141	304	655
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	70.0	RW	134	289
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	69.5	RW	125	270
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	68.0	RW	79	171
301	Laguna Canyon Road	Irvine Center Drive to Discovery	69.0	RW	115	248
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	68.0	RW	79	171
303	Laguna Canyon Road	Pasteur to Alton Parkway	67.1	RW	86	185
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	67.5	RW	92	197

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Table 8

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.4	RW	77	166
306	Laguna Canyon Road	Barranca Parkway to Waterworks	66.3	RW	76	164
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.6	RW	126	271
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.5	RW	125	269
309	Lake Forest Drive	Tesla to Bake Parkway	66.6	RW	108	233
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	RW	RW	RW
311	Lynx	Irvine Boulevard to Astor	53.2	RW	RW	RW
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.8	284	612	1318
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.7	280	603	1299
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.6	277	597	1287
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	RW	178	382
316	MacArthur Boulevard	Fairchild Road to University Drive	69.8	RW	176	379
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	87	187	403
318	MacArthur Boulevard	Michelson Drive to Douglas	72.3	143	308	664
319	MacArthur Boulevard	Douglas to Campus Drive	72.3	141	305	656
320	MacArthur Boulevard	Skypark to Main Street	69.5	RW	160	346
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.4	RW	141	304
322	MacArthur Boulevard	Birch Street to Jamboree Road	67.2	RW	118	254
323	MacArthur Boulevard	Campus Drive to Birch Street	69.5	RW	200	430
324	Main Street	Gillette Avenue to Von Karman Avenue	70.9	92	199	428
325	Main Street	MacArthur Boulevard to Mercantile	70.3	84	181	391
326	Main Street	Executive Park to MacArthur Boulevard	68.5	RW	143	308
327	Main Street	Von Karman Avenue to Cartwright	68.5	RW	143	308
328	Main Street	McDurmott to Red Hill Avenue	68.1	RW	135	292
329	Main Street	Red Hill Avenue to Executive Circle	68.0	RW	134	288
330	Main Street	Jamboree Road to Union	67.9	RW	131	282
331	Main Street	Culver Drive to West Yale Loop	67.2	RW	87	188
332	Main Street	Siglo to Jamboree Road	67.7	RW	128	275
333	Main Street	Veneto to Harvard Avenue	67.6	RW	125	269
334	Main Street	Paseo Westpark to Culver Drive	66.4	RW	77	166
335	Main Street	Harvard Avenue to San Mateo	66.3	RW	76	165

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Table 8

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.3	72	154	332
337	Marine Way	Alton Parkway to Bake Parkway	69.5	RW	124	267
338	Marine Way	Lynx to Barranca Parkway	69.3	RW	122	262
339	Marine Way	County Access to Treble	68.5	RW	107	230
340	Marine Way	Ridge Valley (O Street) to Skyhawk	68.3	RW	104	224
341	Marine Way	Skyhawk to County Access	67.4	RW	90	194
342	Marine Way	Barranca Parkway to Alton Parkway	66.8	RW	82	177
343	Marine Way	Treble to Lynx	66.6	RW	79	171
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	64.5	RW	RW	125
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	64.4	RW	RW	123
346	McGaw Avenue	Daimler to Red Hill Avenue	62.4	RW	RW	91
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.5	RW	RW	RW
348	Meadowood	Culver Drive to Canyonwood	59.6	RW	RW	RW
349	Meridian	Spectrum to Alton Parkway	55.7	RW	RW	RW
350	Meridian	Alton Parkway to Gateway Boulevard	54.8	RW	RW	RW
351	Merit	Irvine Boulevard to Cadence	58.0	RW	RW	RW
352	Michelson Drive	Riparian to Harvard Avenue	68.3	RW	104	224
353	Michelson Drive	Almond Tree Lane to Yale Avenue	67.2	RW	53	113
354	Michelson Drive	Von Karman Avenue to Obsidian	68.1	RW	101	218
355	Michelson Drive	Parkside to Culver Drive	67.8	RW	96	206
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.9	RW	50	108
357	Michelson Drive	Carlson to Prince	67.3	RW	107	231
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.5	RW	92	198
359	Michelson Drive	Harvard Avenue to Parkside	66.8	RW	83	178
360	Michelson Drive	Bixby to Von Karman Avenue	66.9	RW	83	179
361	Michelson Drive	Jamboree Road to Carlson	69.6	RW	122	262
362	Michelson Drive	Teller to Jamboree Road	69.6	RW	122	263
363	Michelson Drive	Jordan East to University Drive	67.1	RW	41	89
364	Michelson Drive	Culver Drive to Angell	66.3	RW	49	105
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	39	84	182
366	Modjeska (A Street)	South of Irvine Boulevard	61.0	RW	RW	44

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Table 8

367	Muirlands Boulevard	Bake Parkway to City Limits	67.3	RW	89	192
368	Muirlands Boulevard	Alton Parkway to Sterling	66.2	RW	75	162
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.3	RW	76	165
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.7	RW	81	174
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.1	RW	64	137
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	61.7	RW	RW	81
373	Northwood	Yale Avenue to Savannah	62.5	RW	RW	55
374	Northwood	Goldrush to Yale Avenue	61.6	RW	RW	48
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	69.7	RW	77	165
376	Pacifica	Gateway to Barranca Parkway	65.3	RW	66	142
377	Pacifica	Alton Parkway to Gateway	64.2	RW	RW	118
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	62.7	RW	RW	95
379	Pacifica	Meridian to Alton Parkway	60.9	RW	RW	71
380	Park Place	Christamon South to Yale Avenue	57.0	RW	RW	RW
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.8	83	179	385
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.8	83	178	384
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.5	79	170	366
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	71.1	74	160	346
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.1	64	137	296
386	Portola Parkway	Gatepark to Culver Drive	70.9	96	207	445
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.8	95	205	441
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.7	93	201	432
389	Portola Parkway	Jamboree Road to Bellevue	70.6	93	199	430
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.6	92	198	427
391	Portola Parkway	Yale Avenue to Jeffrey Road	70.4	89	193	415
392	Portola Parkway	Culver Drive to Yale Avenue	69.8	RW	175	377
393	Portola Parkway	Silverado to Portola Springs	68.7	RW	110	236
394	Pusan	Irvine Boulevard to Cadence	56.1	RW	RW	RW
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.5	RW	92	198
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.4	RW	67	144
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	55.0	RW	RW	RW

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Table 8

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.7	108	233	503
399	Red Hill Avenue	I-405 Over Crossing to Main Street	70.3	65	141	303
400	Red Hill Avenue	Alton Parkway to Deere Avenue	70.1	86	185	398
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	70.1	85	183	394
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.9	RW	177	382
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.5	76	163	352
404	Red Hill Avenue	Main Street to Skypark East	70.9	69	148	320
405	Research Drive	Hubble to Bake Parkway	69.7	RW	128	276
406	Research Drive	Scientific to Lake Forest Drive	67.8	RW	95	206
407	Research Drive	Bake Parkway to Muller	66.8	RW	82	177
408	Research Drive	Irvine Center Drive to Bunsen	65.8	RW	70	151
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.3	RW	89	191
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.4	RW	78	167
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	RW	73	157
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	RW	RW	RW
413	Ridgeline Drive	Concordia East to University Drive	68.8	RW	71	154
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.5	RW	68	147
415	Rockfield Avenue	Whatney to McLaren	67.8	RW	96	206
416	Rockfield Avenue	Bake Parkway to Whatney	64.4	RW	RW	122
417	Rockfield Avenue	Thomas to Bake Parkway	63.2	RW	RW	101
418	Roosevelt	Jeffrey Road to Vision	66.7	RW	81	175
419	Roosevelt	Yale Avenue to Van Buren	68.3	RW	50	108
420	Roosevelt	Vision to Bay Tree	66.5	RW	79	170
421	Roosevelt	Nimitz to Jeffrey Road	65.9	RW	72	155
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.7	RW	70	150
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	RW	RW	56
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	72.2	118	254	547
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	72.0	115	247	532
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.7	123	265	571
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.8	123	265	571
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.8	208	448	965

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Table 8

429	Sand Canyon Avenue	Trabuco Road to Towngate	71.2	101	217	468
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	71.0	98	211	454
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	74.0	184	396	854
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.9	96	207	445
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.6	173	372	801
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.6	104	224	483
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.6	174	375	808
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.6	92	199	429
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.3	88	189	408
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	70.3	66	141	304
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	153	331	712
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.9	91	197	424
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.8	79	170	366
442	Scientific Way	Irvine Center Drive to Wald	55.0	RW	RW	RW
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	69.4	RW	73	158
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.8	RW	77	165
445	Skyhawk	Great Park Boulevard to Marine Way	59.5	13	27	58
446	Southwood	Yale Avenue to Colt	60.6	9	19	41
447	Southwood	Challenger to Yale Avenue	60.4	9	18	40
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.9	18	39	84
449	Spectrum Center Drive (FortuneDrive)	Quassar Drive (Spectrum) to Gatewayb	62.5	20	42	92
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.8	10	21	44
451	Technology Drive	Barranca Parkway to Alton Parkway	70.8	71	152	327
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	69.6	59	127	273
453	Technology Drive	I-5/SR-133 to Barranca Parkway	69.4	57	123	266
454	Technology Drive	Ada to Alton Parkway	63.7	24	51	111
455	Toledo Way	Bake Parkway to City Limits	65.6	32	69	149
456	Toledo Way	Goodyear to Bake Parkway	64.7	28	60	129
457	Toledo Way	Alton Parkway to Parker	64.5	27	58	124
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.3	41	88	191
459	Trabuco Road	Jeffrey Road to Keystone	67.1	40	87	186

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Table 8

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.9	39	83	179
461	Trabuco Road	Monroe to Yale Avenue	66.9	39	84	181
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.8	38	82	178
463	Trabuco Road	Yale Avenue to Remington	66.5	37	79	170
464	Trabuco Road	Remington to Jeffrey Road	66.2	35	76	163
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.7	52	111	239
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.9	27	58	126
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.8	27	58	125
468	Turtle Rock Drive	Canyon Park to Ridgeline	67.1	24	52	111
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	15	32	70
470	Turtle Rock Drive	Campus Drive to Hillgate	64.2	26	55	118
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.4	20	43	92
472	University Drive	Golden Glow to Yale Avenue	73.1	100	215	464
473	University Drive	Ridgeline to Michelson Drive	72.6	113	243	522
474	University Drive	Culver Drive to Golden Glow	72.9	98	211	455
475	University Drive	Yale Avenue to Ridgeline	72.4	91	196	422
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.8	129	278	599
477	University Drive	Mesa to Campus Drive	74.6	122	263	567
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.7	123	266	572
479	University Drive	California Avenue to Mesa	74.5	120	259	558
480	University Drive	Campus Drive to Harvard Avenue	70.8	95	205	443
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.8	65	141	304
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.4	89	193	415
483	University Drive	San Joaquin to Culver Drive	69.9	83	178	384
484	University Drive	Harvard Avenue to San Joaquin	69.9	82	178	383
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.1	47	100	216
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	69.5	47	100	216
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	67.2	41	88	189
488	Valley Oak Drive	Alton Parkway to Hawkcreek	64.9	28	61	132
489	Von Karman Avenue	Marriott to Morse Avenue	71.0	73	158	340
490	Von Karman Avenue	Michelson Drive to Quartz	70.9	72	154	332

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Table 8

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.8	71	152	328
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	70.4	80	173	373
493	Von Karman Avenue	Main Street to Anchor	70.7	70	150	324
494	Von Karman Avenue	Anchor to McGaw Avenue	70.6	68	147	316
495	Von Karman Avenue	Morse to Main Street	70.3	66	141	304
496	Von Karman Avenue	Martin to Dupont Drive	69.7	59	128	276
497	Von Karman Avenue	Campus Drive to Martin	69.6	58	126	271
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.6	58	126	271
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	71.0	72	156	336
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	69.2	55	120	258
501	Walnut Avenue	The Mall Street to Culver Drive	68.9	52	113	244
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.8	52	113	243
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.6	50	108	233
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.5	49	107	230
505	Walnut Avenue	Culver Drive to Franciscan Street	68.4	49	106	228
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	68.1	63	135	291
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.9	61	131	283
508	Walnut Avenue	Yale Avenue to Kazan Street	67.3	42	90	193
509	Walnut Avenue	Wisteria to Jeffrey Road	67.2	41	88	190
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.1	64	138	297
511	Warner Avenue	Construction North to Harvard Avenue	68.6	50	108	233
512	Warner Avenue	Harvard Avenue to Paseo Westpark	67.1	40	86	185
513	Warner Avenue	Santa Ynez to Culver Drive	66.2	35	75	162
514	Warner Avenue	Culver Drive to West Yale Loop	65.9	33	72	155
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	25	53	115
516	West Yale Loop	Eagle Run to Main Street	63.8	24	52	112
517	West Yale Loop	Thunder Run to Yale Avenue	64.0	25	54	116
518	West Yale Loop	Main Street to Timber Run	62.9	21	45	97
519	West Yale Loop	Yale Avenue to Shorebird	63.3	22	48	104
520	West Yale Loop	Warner Avenue to Stonecreek South	62.7	20	44	95
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	20	42	91

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Table 8

522	West Yale Loop	Stonecreek North to Warner Avenue	62.6	20	43	94
523	West Yale Loop	Birdsong to Barranca Parkway	62.5	20	42	91
524	Westwood	Yorktown to Bryan Avenue	63.5	14	30	64
525	Westwood	Bryan Avenue to Leaf	61.6	10	22	48
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	30	65	141
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.3	25	54	116
528	Yale Avenue	Walnut Avenue to Roosevelt	71.2	48	103	222
529	Yale Avenue	Roosevelt to Trabuco Road	67.1	40	86	185
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.8	38	82	178
531	Yale Avenue	West Yale Loop to Irvine Center Drive	66.6	37	79	171
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.8	33	70	151
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.8	33	70	151
534	Yale Avenue	Trabuco Road to Southwood	65.7	32	69	149
535	Yale Avenue	Southwood to Bryan Avenue	65.4	31	67	144
536	Yale Avenue	Northwood to Irvine Boulevard	65.2	30	64	138
537	Yale Avenue	Bryan Avenue to Monticello	65.0	29	63	135
538	Yale Avenue	Irvine Boulevard to Park Place	64.2	26	56	120
539	Yale Avenue	University Drive to Royce	63.5	18	40	86
540	Yale Court	Arborwood to Portola Parkway	60.4	9	18	40

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

Table 9: Preferred Plan Conditions Noise Contours

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ada	Barranca Parway to Marine Way	70.8	42	91	196
2	Ada	Alton Parkway to Barranca PArkway	69.2	RW	120	258
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	73.9	152	328	706
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	74.5	160	345	742
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.8	82	176	380
6	Alton Parkway	Gateway Boulevard to Enterprise	71.7	109	235	507
7	Alton Parkway	Jeffrey Road to Royal Oak	70.7	70	151	324
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.6	69	148	320
9	Alton Parkway	Culver Drive to West Yale Loop	70.6	68	147	318
10	Alton Parkway	West Yale Loop to Lake Road	70.6	68	147	317
11	Alton Parkway	Technology Drive West to Ada	72.4	116	250	539
12	Alton Parkway	Creek Road to East Yale Loop	70.5	68	146	314
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	70.4	66	143	308
14	Alton Parkway	Lake Road to Creek Road	70.3	65	141	303
15	Alton Parkway	Telemetry to Banting	70.3	66	142	305
16	Alton Parkway	Irvine Boulevard to Commercentre	70.8	95	205	443
17	Alton Parkway	Jenner to Telemetry	70.3	65	140	302
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	71.0	97	210	452
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.7	105	227	489
20	Alton Parkway	Laguna Canyon Road to Jenner	70.2	64	138	298
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	70.8	95	205	441
22	Alton Parkway	Royal Oak to Valley Oak Drive	70.0	RW	134	288
23	Alton Parkway	Banting to Pacifica	69.9	RW	133	286
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.3	88	189	407
25	Alton Parkway	Ada to Technology Drive East	70.3	88	191	411

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Table 9

26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.6	RW	127	273
27	Alton Parkway	Jeronimo Road to Hughes	70.0	84	181	390
28	Alton Parkway	Hughes to Morgan	69.8	RW	174	376
29	Alton Parkway	Morgan to Toledo Way	69.0	RW	156	336
30	Alton Parkway	San Marino to Culver Drive	69.1	RW	157	338
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.9	RW	154	332
32	Alton Parkway	Hospital to Laguna Canyon Road	71.9	81	174	374
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.8	79	169	364
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.7	RW	149	322
35	Alton Parkway	Foster to Irvine Boulevard	68.7	RW	148	318
36	Alton Parkway	Fairbanks to Foster	68.4	RW	142	307
37	Alton Parkway	Toledo Way to Bertea	68.4	RW	142	306
38	Alton Parkway	Pacifica to Meridian	71.5	76	164	353
39	Alton Parkway	Bertea to Fairbanks	68.3	RW	140	301
40	Alton Parkway	Meridian to Irvine Center Drive	68.2	RW	137	294
41	Alton Parkway	Paseo Westpark to San Marino	68.1	RW	136	293
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.5	RW	124	268
43	Astor	Lynx to Fairbanks	67.0	RW	51	110
44	Astor	Cadence to Lynx	65.8	RW	42	91
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.6	276	595	1282
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.9	131	283	609
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.0	216	466	1004
48	Bake Parkway	Jeronimo Road to Toledo Way	72.0	114	245	528
49	Bake Parkway	Toledo Way to Cromwell	71.6	108	232	501
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	107	232	499
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.5	RW	168	362
52	Bake Parkway	Irvine Center Drive to Research Drive	64.8	RW	RW	176
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.4	RW	RW	141
54	Banting	Alton Parkway to Barranca Parkway	60.2	RW	RW	64
55	Barranca Parkway	Pacifica to Irvine Center Drive	73.1	100	216	465
56	Barranca Parkway	Banting to Pacifica	72.7	94	203	438

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Table 9

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	72.6	94	202	436
58	Barranca Parkway	Technology Drive West to Ada	72.6	93	199	430
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	72.3	90	193	416
60	Barranca Parkway	Culver Drive to West Yale Loop	72.2	87	188	406
61	Barranca Parkway	East Yale Loop to Jeffrey Road	72.1	86	186	400
62	Barranca Parkway	West Yale Loop to Lake Road	72.0	85	183	394
63	Barranca Parkway	Ada to Alton Parkway	72.0	85	184	396
64	Barranca Parkway	Lake Road to Creek Road	71.7	81	175	376
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.7	204	440	949
66	Barranca Parkway	Discovery/Herchel to Banting	71.6	79	171	368
67	Barranca Parkway	Lyon to East Yale Loop	71.5	78	168	363
68	Barranca Parkway	Creek Road to Lyon	71.4	77	166	358
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.7	120	259	559
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	70.8	70	152	327
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.3	115	247	532
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.6	69	149	320
73	Barranca Parkway	Jamboree Road to Construction Circle	71.0	98	212	457
74	Barranca Parkway	Santa Rosa to Culver Drive	70.9	96	207	446
75	Barranca Parkway	FedEx to Discovery/Herchel	70.2	64	139	299
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	70.2	64	138	298
77	Barranca Parkway	Laguna Canyon Road to FedEx	70.1	63	136	294
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.6	174	374	807
79	Barranca Parkway	Construction Circle to Fire Station	70.5	90	194	418
80	Barranca Parkway	Fire Station to Harvard Avenue	70.5	90	194	418
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.4	90	193	416
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	70.1	85	183	394
83	Bay Tree	Trabuco Road to Roosevelt	57.2	RW	RW	RW
84	Beacon	Ridge Valley to Benchmark	59.6	RW	RW	RW
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.5	RW	RW	RW
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.6	RW	127	274
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.3	78	168	363

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Table 9

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.6	RW	129	279
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	RW	123	264
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	68.0	RW	118	255
91	Bosque	Cadence to Great Park Boulevard	65.2	RW	39	83
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.5	RW	RW	64
93	Bosque	Benchmark to Cadence	63.1	RW	RW	60
94	Bosque	Great Park Boulevard to Beacon	56.7	RW	RW	RW
95	Bosque	Beacon to S 5th Street	56.1	RW	RW	RW
96	Bryan Avenue	Jamboree Road to Market Place	68.9	RW	115	247
97	Bryan Avenue	Market Place to El Camino Real	68.9	RW	113	244
98	Bryan Avenue	Rubicon to Culver Drive	68.9	RW	113	244
99	Bryan Avenue	El Camino Real to Rubicon	68.8	RW	113	243
100	Bryan Avenue	Eastwood to Jeffrey Road	66.9	RW	84	181
101	Bryan Avenue	Westwood to Yale Avenue	66.6	RW	80	173
102	Bryan Avenue	Culver Drive to Westwood	66.6	RW	79	171
103	Bryan Avenue	Yale Avenue to Eastwood	66.4	RW	77	167
104	Cadence	Pusan to Chinon	65.6	RW	41	88
105	Cadence	Bosque to Pusan	65.3	RW	39	85
106	Cadence	Ridge Valley (O Street) to Bosque	63.9	RW	RW	68
107	Cadence	Chinon to Merit	62.2	RW	RW	52
108	Cadence	Merit to Astor	59.4	RW	RW	RW
109	California Avenue	University Drive to Academy Way	66.2	RW	76	163
110	California Avenue	Campus Drive to Harvard Avenue	64.2	RW	RW	120
111	California Avenue	Theory to Bison Avenue	63.9	RW	RW	114
112	Campus Drive	Carlson Avenue to University Drive	73.2	82	176	379
113	Campus Drive	University Drive to Bridge Road	71.8	82	177	380
114	Campus Drive	Jamboree Road to Carlson Avenue	71.5	78	169	363
115	Campus Drive	Stanford Court to Berkeley Avenue	71.1	74	159	342
116	Campus Drive	California Avenue to Culver Drive	70.9	72	155	334
117	Campus Drive	Berkeley Avenue to Cornell	70.0	RW	134	288
118	Campus Drive	Martin to Von Karman Avenue	69.0	RW	115	247

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Table 9

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.7	RW	110	238
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.3	RW	104	224
121	Campus Drive	MacArthur Boulevard to Martin	68.2	RW	102	220
122	Campus Drive	Teller Avenue to Jamboree Road	67.5	RW	91	196
123	Carlson Avenue	Michelson Drive to Campus Drive	67.9	RW	97	210
124	Chinon	Irvine Boulevard to Cadence	59.0	RW	RW	RW
125	Creek Road	Alton Parkway to Barranca Parkway	56.1	RW	RW	RW
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.9	154	331	713
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.8	151	326	703
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	153	330	711
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.9	152	327	704
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	146	315	678
131	Culver Drive	San Leandro to Main Street	73.3	140	302	650
132	Culver Drive	Harvard Avenue to University Drive	73.3	140	302	651
133	Culver Drive	Trabuco Road to Farwell Avenue	74.3	154	331	713
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	137	295	637
135	Culver Drive	Main Street to Alton Parkway	73.1	135	290	625
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	133	286	615
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.9	131	283	609
138	Culver Drive	Barranca Parkway to Warner Avenue	72.8	130	280	603
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.0	85	183	394
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.5	124	268	577
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	124	267	575
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	122	262	564
143	Culver Drive	Palo Verde to Campus Drive	71.6	80	172	370
144	Culver Drive	University Drive to Sandburg Way	72.2	118	253	546
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.2	131	282	607
146	Culver Drive	Campus Drive to High School	72.1	116	249	537
147	Culver Drive	High School to Harvard Avenue	72.0	114	247	531
148	Culver Drive	Bryan Avenue to Florence	71.8	110	238	513
149	Culver Drive	Portola Parkway to Settlers	71.1	74	161	346

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Table 9

150	Culver Drive	Florence to Irvine Boulevard	71.7	109	235	505
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	91	196	423
152	Culver Drive	Viewpark to Meadowood	70.4	90	193	415
153	Culver Drive	Settlers to Furrow	68.4	RW	106	228
154	Culver Drive	Meadowood to Portola Parkway	69.0	RW	154	333
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	64.0	RW	RW	115
156	Discovery Drive	Waterworks Way to Irvine Center Drive	61.2	RW	RW	75
157	East Yale Loop	Alton Parkway to Witherspoon	65.5	RW	67	145
158	East Yale Loop	Osborn Street to Barranca Parkway	65.3	RW	65	140
159	East Yale Loop	Yale Avenue to Springbrook South	64.8	RW	RW	131
160	East Yale Loop	Springbrook North to Alton Parkway	63.5	RW	RW	108
161	East Yale Loop	Woodspring to Yale Avenue	62.7	RW	RW	95
162	East Yale Loop	Barranca Parkway to Eastshore	62.4	RW	RW	91
163	Eastwood	Bryan Avenue to Monticello	60.8	RW	RW	42
164	Eastwood	Columbus to Bryan Avenue	58.7	RW	RW	RW
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.1	RW	86	186
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	RW	RW	90
167	Fairbanks	Alton Parkway to Astor	69.7	RW	77	167
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.9	RW	50	108
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.1	RW	RW	117
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	63.3	RW	RW	103
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	62.1	RW	RW	86
172	Gateway Boulevard	Irvine Center Drive to Meridian	59.1	RW	RW	RW
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.4	119	256	551
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.2	64	139	299
175	Great Park Boulevard (EB)	Bosque to Skyhawk	68.8	RW	67	144
176	Great Park Boulevard (WB)	Bosque to Skyhawk	68.3	RW	62	134
177	Harvard Avenue	University Drive to Michelson Drive	72.0	51	109	236
178	Harvard Avenue	Michelson Drive to Coronado	70.4	67	144	310
179	Harvard Avenue	San Marino to Alton Parkway	70.1	64	138	297
180	Harvard Avenue	Coronado to Main Street	70.1	64	137	295

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Table 9

181	Harvard Avenue	San Carlo to San Marino	70.0	63	136	292
182	Harvard Avenue	Main Street to San Carlo	70.0	RW	134	289
183	Harvard Avenue	Alton Parkway to San Leon	68.8	RW	111	239
184	Harvard Avenue	San Juan to Barranca Parkway	68.8	RW	111	239
185	Harvard Avenue	San Leon to San Juan	68.6	RW	108	233
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.4	RW	91	195
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.3	RW	90	193
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.8	RW	97	208
189	Harvard Avenue	Bridge Road to University Drive	67.8	RW	96	207
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.8	RW	96	208
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.7	RW	88	191
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.2	RW	88	190
193	Harvard Avenue	Culver Drive to California Avenue	67.2	RW	88	189
194	Harvard Avenue	Berkeley to Bridge Road	67.1	RW	87	187
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.8	RW	82	176
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	RW	RW	RW
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.5	RW	RW	RW
198	Hubble	Irvine Center Drive to Bunsen	55.9	RW	RW	RW
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.3	120	258	557
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.2	118	254	547
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.1	128	277	596
202	Irvine Boulevard	Merit to Alton	71.6	108	232	500
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.6	107	231	497
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.2	100	216	466
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	98	211	455
206	Irvine Boulevard	Palo Lado to Yale Avenue	71.1	99	213	459
207	Irvine Boulevard	Culver Drive to Palo Lado	71.0	98	212	457
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.9	97	209	451
209	Irvine Boulevard	Old Myford Road to Market Place	71.0	97	210	452
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.9	97	209	450
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.9	96	207	445

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Table 9

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.9	96	206	444
213	Irvine Boulevard	Jeffrey Road to Groveland	70.8	94	203	438
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.6	92	199	429
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to JeffreyRoad	70.6	92	199	429
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	90	194	418
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.5	90	195	420
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.3	89	191	411
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.3	88	190	410
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	87	188	404
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.9	RW	178	383
222	Irvine Boulevard	Parker to Bake Parkway	69.5	RW	169	364
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	RW	146	315
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.6	119	256	550
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	71.8	111	239	515
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.1	111	239	515
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.7	109	235	507
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.5	105	227	489
229	Irvine Center Drive	Culver Drive to Deerwood	71.4	105	226	486
230	Irvine Center Drive	Deerwood to Yale Avenue	71.4	104	224	483
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	71.4	104	225	484
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.3	103	222	479
233	Irvine Center Drive	Alton Parkway to Spectrum	71.0	98	211	456
234	Irvine Center Drive	Spectrum to Pacifica	71.0	97	210	452
235	Irvine Center Drive	Hearthstone to Culver Drive	70.9	96	207	446
236	Irvine Center Drive	Charter to Barranca Parkway	70.6	93	200	430
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.5	90	195	419
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.5	90	195	419
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.5	90	195	419
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.2	87	187	403
241	Irvine Center Drive	Research to Hubble	69.7	RW	174	375
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	69.8	RW	176	378

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Table 9

243	Irvine Center Drive	Bake Parkway to Muller	69.7	RW	173	373
244	Irvine Center Drive	Discovery to Charter	69.8	RW	176	380
245	Irvine Center Drive	Hubble to Bake Parkway	69.5	RW	167	360
246	Irvine Center Drive	Muller to Tesla	69.3	RW	162	349
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.2	RW	159	343
248	Irvine Center Drive	Tesla to Scientific Way	68.9	RW	154	331
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.7	RW	149	321
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.6	RW	146	314
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.6	RW	146	315
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.5	RW	145	312
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	70.9	97	208	448
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	168	362	780
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.6	188	405	873
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.9	152	328	707
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	77.0	291	628	1353
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.6	146	314	676
259	Jamboree Road	Main Street to Kelvin Avenue	76.3	264	569	1226
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.3	214	460	992
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	76.0	251	541	1166
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.9	249	537	1157
263	Jamboree Road	Birch Street to Campus Drive	72.9	132	283	611
264	Jamboree Road	Dupont Drive to Michelson Drive	73.8	144	310	668
265	Jamboree Road	Alton Parkway to Beckman	75.5	234	504	1086
266	Jamboree Road	Fairchild Road to Birch Street	73.4	136	292	629
267	Jamboree Road	Beckman to Barranca Parkway	75.2	223	481	1036
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	218	470	1013
269	Jamboree Road	Campus Drive to Dupont Drive	73.1	128	276	595
270	Jamboree Road	El Camino Real to West Drive	75.0	215	463	997
271	Jamboree Road	West Drive to Bryan Avenue	75.0	214	462	995
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.7	204	440	948
273	Jamboree Road	Koll Center to Fairchild Road	72.7	121	260	561

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Table 9

274	Jamboree Road	MacArthur Boulevard to Koll Center	72.6	120	258	557
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.7	94	202	436
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.1	260	561	1208
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.3	228	492	1059
278	Jamboree Road	Edinger Avenue to Walnut Avenue	78.0	217	468	1009
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.3	103	223	479
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.2	113	243	523
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.9	97	208	448
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.8	95	204	441
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.7	94	202	435
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.7	94	203	436
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.6	92	199	428
286	Jeffrey Road	Quail Creek to Alton Parkway	70.6	92	199	429
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.4	89	191	412
288	Jeffrey Road	Trabuco Road to Hideaway	69.6	RW	171	369
289	Jeffrey Road	Hideaway to Bryan Avenue	69.6	RW	171	369
290	Jeffrey Road	Roosevelt to Grove	70.4	85	182	392
291	Jeffrey Road	Grove to Trabuco Road	70.2	83	178	383
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.5	RW	143	308
293	Jeffrey Road	Encore to Portola Parkway	65.8	RW	95	205
294	Jeffrey Road	Irvine Boulevard to Encore	65.5	RW	91	196
295	Jeronimo Road	Goodyear to Bake Parkway	64.6	RW	RW	127
296	Jeronimo Road	Alton Parkway to Goodyear	64.3	RW	RW	121
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.3	139	300	645
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	69.9	RW	134	288
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	69.1	RW	118	254
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	67.9	RW	78	169
301	Laguna Canyon Road	Irvine Center Drive to Discovery	67.5	RW	92	198
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	67.9	RW	78	169
303	Laguna Canyon Road	Pasteur to Alton Parkway	66.9	RW	84	182
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	66.4	RW	78	167

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Table 9

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.1	RW	74	159
306	Laguna Canyon Road	Barranca Parkway to Waterworks	65.6	RW	69	149
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.3	RW	121	261
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.3	RW	121	260
309	Lake Forest Drive	Tesla to Bake Parkway	66.3	RW	103	222
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	RW	RW	RW
311	Lynx	Irvine Boulevard to Astor	53.2	RW	RW	RW
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.7	278	599	1291
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.6	277	596	1284
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.6	274	590	1271
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	RW	178	382
316	MacArthur Boulevard	Fairchild Road to University Drive	69.9	RW	177	382
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	87	187	402
318	MacArthur Boulevard	Michelson Drive to Douglas	72.1	137	296	637
319	MacArthur Boulevard	Douglas to Campus Drive	72.1	137	296	637
320	MacArthur Boulevard	Skypark to Main Street	69.5	RW	159	343
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.3	RW	140	302
322	MacArthur Boulevard	Birch Street to Jamboree Road	67.0	RW	114	245
323	MacArthur Boulevard	Campus Drive to Birch Street	69.3	RW	193	415
324	Main Street	Gillette Avenue to Von Karman Avenue	70.7	90	193	416
325	Main Street	MacArthur Boulevard to Mercantile	70.2	83	178	384
326	Main Street	Executive Park to MacArthur Boulevard	68.4	RW	141	304
327	Main Street	Von Karman Avenue to Cartwright	68.3	RW	140	302
328	Main Street	McDurmott to Red Hill Avenue	68.1	RW	134	290
329	Main Street	Red Hill Avenue to Executive Circle	68.0	RW	133	286
330	Main Street	Jamboree Road to Union	67.8	RW	129	279
331	Main Street	Culver Drive to West Yale Loop	67.1	RW	87	187
332	Main Street	Siglo to Jamboree Road	67.7	RW	126	272
333	Main Street	Veneto to Harvard Avenue	67.5	RW	124	267
334	Main Street	Paseo Westpark to Culver Drive	66.4	RW	77	167
335	Main Street	Harvard Avenue to San Mateo	66.4	RW	77	166

Table 9

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.3	71	153	329
337	Marine Way	Alton Parkway to Bake Parkway	69.3	RW	120	259
338	Marine Way	Lynx to Barranca Parkway	69.3	RW	122	262
339	Marine Way	County Access to Treble	68.4	RW	105	227
340	Marine Way	Ridge Valley (O Street) to Skyhawk	68.2	RW	102	220
341	Marine Way	Skyhawk to County Access	67.1	RW	86	186
342	Marine Way	Barranca Parkway to Alton Parkway	66.8	RW	82	177
343	Marine Way	Treble to Lynx	66.4	RW	77	167
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	64.3	RW	RW	120
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	64.1	RW	RW	118
346	McGaw Avenue	Daimler to Red Hill Avenue	62.4	RW	RW	90
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.3	RW	RW	RW
348	Meadowood	Culver Drive to Canyonwood	59.8	RW	RW	RW
349	Meridian	Spectrum to Alton Parkway	55.3	RW	RW	RW
350	Meridian	Alton Parkway to Gateway Boulevard	54.6	RW	RW	RW
351	Merit	Irvine Boulevard to Cadence	57.9	RW	RW	RW
352	Michelson Drive	Riparian to Harvard Avenue	68.3	RW	103	223
353	Michelson Drive	Almond Tree Lane to Yale Avenue	67.1	RW	52	112
354	Michelson Drive	Von Karman Avenue to Obsidian	68.0	RW	99	213
355	Michelson Drive	Parkside to Culver Drive	67.8	RW	95	206
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.8	RW	49	106
357	Michelson Drive	Carlson to Prince	67.3	RW	107	230
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.3	RW	89	193
359	Michelson Drive	Harvard Avenue to Parkside	66.8	RW	82	177
360	Michelson Drive	Bixby to Von Karman Avenue	66.7	RW	81	175
361	Michelson Drive	Jamboree Road to Carlson	69.6	RW	122	263
362	Michelson Drive	Teller to Jamboree Road	69.6	RW	122	263
363	Michelson Drive	Jordan East to University Drive	66.9	RW	40	87
364	Michelson Drive	Culver Drive to Angell	66.2	RW	48	103
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	39	84	181
366	Modjeska (A Street)	South of Irvine Boulevard	61.1	RW	RW	45

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Table 9

367	Muirlands Boulevard	Bake Parkway to City Limits	67.1	RW	86	186
368	Muirlands Boulevard	Alton Parkway to Sterling	66.3	RW	76	165
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.3	RW	76	165
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.6	RW	80	173
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.1	RW	63	136
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	61.9	RW	RW	83
373	Northwood	Yale Avenue to Savannah	62.5	RW	RW	55
374	Northwood	Goldrush to Yale Avenue	61.5	RW	RW	47
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	69.2	RW	72	155
376	Pacifica	Gateway to Barranca Parkway	65.2	RW	64	139
377	Pacifica	Alton Parkway to Gateway	64.0	RW	RW	116
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	62.7	RW	RW	94
379	Pacifica	Meridian to Alton Parkway	60.8	RW	RW	70
380	Park Place	Christamon South to Yale Avenue	57.0	RW	RW	RW
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.5	79	170	367
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.5	79	170	367
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.4	77	166	358
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	71.0	73	157	339
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.1	63	136	292
386	Portola Parkway	Gatepark to Culver Drive	70.6	92	198	427
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.5	91	197	424
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.4	89	193	415
389	Portola Parkway	Jamboree Road to Bellevue	70.4	89	191	412
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.3	88	190	410
391	Portola Parkway	Yale Avenue to Jeffrey Road	70.1	85	183	394
392	Portola Parkway	Culver Drive to Yale Avenue	69.6	RW	169	364
393	Portola Parkway	Silverado to Portola Springs	68.5	RW	108	232
394	Pusan	Irvine Boulevard to Cadence	56.2	RW	RW	RW
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.4	RW	91	195
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.5	RW	67	145
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.8	RW	RW	RW

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Table 9

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.5	105	227	489
399	Red Hill Avenue	I-405 Over Crossing to Main Street	70.1	64	137	295
400	Red Hill Avenue	Alton Parkway to Deere Avenue	70.0	84	181	390
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.9	RW	178	384
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.8	RW	174	375
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.3	73	157	339
404	Red Hill Avenue	Main Street to Skypark East	70.6	66	142	307
405	Research Drive	Hubble to Bake Parkway	69.5	RW	125	269
406	Research Drive	Scientific to Lake Forest Drive	67.4	RW	90	194
407	Research Drive	Bake Parkway to Muller	66.6	RW	80	172
408	Research Drive	Irvine Center Drive to Bunsen	65.6	RW	69	148
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.3	RW	88	190
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.4	RW	78	167
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	RW	73	157
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	RW	RW	RW
413	Ridgeline Drive	Concordia East to University Drive	68.7	RW	71	152
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.4	RW	67	145
415	Rockfield Avenue	Whatney to McLaren	67.6	RW	93	201
416	Rockfield Avenue	Bake Parkway to Whatney	64.1	RW	RW	118
417	Rockfield Avenue	Thomas to Bake Parkway	63.1	RW	RW	100
418	Roosevelt	Jeffrey Road to Vision	66.5	RW	78	169
419	Roosevelt	Yale Avenue to Van Buren	68.2	RW	49	105
420	Roosevelt	Vision to Bay Tree	66.2	RW	76	163
421	Roosevelt	Nimitz to Jeffrey Road	65.9	RW	71	154
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.6	RW	69	148
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	RW	RW	56
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	72.1	115	248	535
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	71.9	113	244	525
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.6	121	260	561
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.7	121	260	560
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.6	204	440	947

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Table 9

429	Sand Canyon Avenue	Trabuco Road to Towngate	71.1	99	213	459
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	70.8	95	206	443
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	73.8	181	389	838
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.6	92	198	426
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.5	172	371	799
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.5	102	220	474
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.5	171	369	795
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.4	89	193	415
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.2	87	187	403
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	69.2	RW	119	257
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	153	331	712
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.6	88	189	407
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.7	78	169	364
442	Scientific Way	Irvine Center Drive to Wald	55.0	RW	RW	RW
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	69.2	RW	71	153
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.5	RW	74	159
445	Skyhawk	Great Park Boulevard to Marine Way	59.6	13	27	59
446	Southwood	Yale Avenue to Colt	60.5	9	19	41
447	Southwood	Challenger to Yale Avenue	60.2	8	18	39
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.9	18	39	84
449	Spectrum Center Drive (FortuneDrive)	Quassar Drive (Spectrum) to Gatewayb	62.4	19	42	90
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.6	9	20	43
451	Technology Drive	Barranca Parkway to Alton Parkway	70.6	68	147	317
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	69.2	56	120	258
453	Technology Drive	I-5/SR-133 to Barranca Parkway	69.1	54	117	251
454	Technology Drive	Ada to Alton Parkway	63.0	21	46	98
455	Toledo Way	Bake Parkway to City Limits	65.7	32	69	149
456	Toledo Way	Goodyear to Bake Parkway	64.7	28	60	128
457	Toledo Way	Alton Parkway to Parker	64.3	26	56	122
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.1	40	87	187
459	Trabuco Road	Jeffrey Road to Keystone	66.9	39	84	180

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Table 9

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.7	38	82	176
461	Trabuco Road	Monroe to Yale Avenue	66.6	37	80	173
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.5	37	79	170
463	Trabuco Road	Yale Avenue to Remington	66.2	35	75	161
464	Trabuco Road	Remington to Jeffrey Road	66.0	34	73	156
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.8	52	111	240
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.8	27	58	125
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.7	27	57	123
468	Turtle Rock Drive	Canyon Park to Ridgeline	67.0	24	51	110
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	15	32	69
470	Turtle Rock Drive	Campus Drive to Hillgate	64.1	25	54	116
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.4	20	43	92
472	University Drive	Golden Glow to Yale Avenue	72.9	98	211	455
473	University Drive	Ridgeline to Michelson Drive	72.5	111	239	514
474	University Drive	Culver Drive to Golden Glow	72.8	96	207	446
475	University Drive	Yale Avenue to Ridgeline	72.3	89	192	414
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.7	126	272	587
477	University Drive	Mesa to Campus Drive	74.5	119	256	552
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.4	117	253	545
479	University Drive	California Avenue to Mesa	74.3	117	252	543
480	University Drive	Campus Drive to Harvard Avenue	70.6	93	200	430
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.5	63	136	292
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.1	86	185	399
483	University Drive	San Joaquin to Culver Drive	69.7	81	174	375
484	University Drive	Harvard Avenue to San Joaquin	69.7	80	173	374
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.0	46	99	213
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	69.0	43	93	201
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	66.7	38	82	176
488	Valley Oak Drive	Alton Parkway to Hawkcreek	64.8	28	61	131
489	Von Karman Avenue	Marriott to Morse Avenue	70.9	72	155	333
490	Von Karman Avenue	Michelson Drive to Quartz	70.7	70	151	324

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Table 9

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.7	69	149	321
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	70.3	79	170	366
493	Von Karman Avenue	Main Street to Anchor	70.6	68	147	317
494	Von Karman Avenue	Anchor to McGaw Avenue	70.4	67	144	310
495	Von Karman Avenue	Morse to Main Street	70.2	65	139	300
496	Von Karman Avenue	Martin to Dupont Drive	69.5	58	125	270
497	Von Karman Avenue	Campus Drive to Martin	69.5	57	124	267
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.5	57	124	267
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	70.9	71	154	331
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	69.1	54	117	251
501	Walnut Avenue	The Mall Street to Culver Drive	68.7	51	110	237
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.7	51	110	237
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.4	49	105	225
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.4	49	105	225
505	Walnut Avenue	Culver Drive to Franciscan Street	68.3	48	104	223
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.9	61	131	283
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.8	59	128	276
508	Walnut Avenue	Yale Avenue to Kazan Street	67.1	40	86	186
509	Walnut Avenue	Wisteria to Jeffrey Road	67.1	40	86	185
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.2	64	138	297
511	Warner Avenue	Construction North to Harvard Avenue	68.6	50	108	233
512	Warner Avenue	Harvard Avenue to Paseo Westpark	67.0	39	85	183
513	Warner Avenue	Santa Ynez to Culver Drive	66.0	34	73	157
514	Warner Avenue	Culver Drive to West Yale Loop	65.7	32	69	149
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	25	54	115
516	West Yale Loop	Eagle Run to Main Street	63.8	24	52	113
517	West Yale Loop	Thunder Run to Yale Avenue	63.9	24	53	113
518	West Yale Loop	Main Street to Timber Run	62.9	21	45	98
519	West Yale Loop	Yale Avenue to Shorebird	62.9	21	45	97
520	West Yale Loop	Warner Avenue to Stonecreek South	62.6	20	43	93
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	20	42	91

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Table 9

522	West Yale Loop	Stonecreek North to Warner Avenue	62.4	19	42	90
523	West Yale Loop	Birdsong to Barranca Parkway	62.3	19	41	89
524	Westwood	Yorktown to Bryan Avenue	63.6	14	30	65
525	Westwood	Bryan Avenue to Leaf	61.5	10	22	47
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	30	65	141
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.3	25	54	116
528	Yale Avenue	Walnut Avenue to Roosevelt	71.0	46	100	216
529	Yale Avenue	Roosevelt to Trabuco Road	67.0	40	85	184
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.9	39	84	180
531	Yale Avenue	West Yale Loop to Irvine Center Drive	66.3	35	76	164
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.7	32	69	149
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.7	32	69	149
534	Yale Avenue	Trabuco Road to Southwood	65.6	32	68	147
535	Yale Avenue	Southwood to Bryan Avenue	65.4	31	67	144
536	Yale Avenue	Northwood to Irvine Boulevard	65.1	30	64	138
537	Yale Avenue	Bryan Avenue to Monticello	65.0	29	63	135
538	Yale Avenue	Irvine Boulevard to Park Place	64.3	26	56	120
539	Yale Avenue	University Drive to Royce	63.4	18	39	85
540	Yale Court	Arborwood to Portola Parkway	60.3	8	18	39

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

Table 10: Preferred Cumualtive Plan Conditions Noise Contours

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ada	Barranca Parway to Marine Way	70.8	42	91	196
2	Ada	Alton Parkway to Barranca PArkway	69.2	RW	119	257
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	73.9	152	328	707
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	74.5	160	345	743
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.8	82	177	380
6	Alton Parkway	Gateway Boulevard to Enterprise	71.7	110	236	508
7	Alton Parkway	Jeffrey Road to Royal Oak	70.8	70	152	327
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.6	69	149	320
9	Alton Parkway	Culver Drive to West Yale Loop	70.6	69	148	319
10	Alton Parkway	West Yale Loop to Lake Road	70.6	69	148	318
11	Alton Parkway	Technology Drive West to Ada	72.4	116	250	539
12	Alton Parkway	Creek Road to East Yale Loop	70.6	68	147	316
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	70.5	67	145	313
14	Alton Parkway	Lake Road to Creek Road	70.3	66	141	305
15	Alton Parkway	Telemetry to Banting	70.4	66	142	307
16	Alton Parkway	Irvine Boulevard to Commercentre	70.9	96	207	446
17	Alton Parkway	Jenner to Telemetry	70.3	65	141	303
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	71.0	98	210	453
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.7	106	228	491
20	Alton Parkway	Laguna Canyon Road to Jenner	70.2	64	139	299
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	70.8	96	206	444
22	Alton Parkway	Royal Oak to Valley Oak Drive	70.0	63	135	291
23	Alton Parkway	Banting to Pacifica	69.9	RW	133	287
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.3	88	190	409
25	Alton Parkway	Ada to Technology Drive East	70.3	88	191	411

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Table 10

26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.7	RW	128	275
27	Alton Parkway	Jeronimo Road to Hughes	70.0	84	181	390
28	Alton Parkway	Hughes to Morgan	69.8	RW	174	376
29	Alton Parkway	Morgan to Toledo Way	69.0	RW	156	336
30	Alton Parkway	San Marino to Culver Drive	69.1	RW	158	341
31	Alton Parkway	Jamboree Road to Murphy Avenue	69.1	RW	159	342
32	Alton Parkway	Hospital to Laguna Canyon Road	72.0	81	175	376
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.8	79	170	366
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.9	RW	154	332
35	Alton Parkway	Foster to Irvine Boulevard	68.7	RW	149	320
36	Alton Parkway	Fairbanks to Foster	68.5	RW	143	309
37	Alton Parkway	Toledo Way to Bertea	68.4	RW	142	306
38	Alton Parkway	Pacifica to Meridian	71.6	76	165	355
39	Alton Parkway	Bertea to Fairbanks	68.3	RW	140	301
40	Alton Parkway	Meridian to Irvine Center Drive	68.2	RW	137	295
41	Alton Parkway	Paseo Westpark to San Marino	68.2	RW	137	296
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.7	RW	127	273
43	Astor	Lynx to Fairbanks	67.0	RW	51	110
44	Astor	Cadence to Lynx	65.8	RW	43	92
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.6	277	596	1284
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.9	132	284	612
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.0	217	468	1008
48	Bake Parkway	Jeronimo Road to Toledo Way	72.0	114	246	530
49	Bake Parkway	Toledo Way to Cromwell	71.7	108	233	503
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	108	232	500
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.6	RW	170	366
52	Bake Parkway	Irvine Center Drive to Research Drive	65.0	RW	84	181
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.7	RW	RW	148
54	Banting	Alton Parkway to Barranca Parkway	60.1	RW	RW	64
55	Barranca Parkway	Pacifica to Irvine Center Drive	73.1	101	217	467
56	Barranca Parkway	Banting to Pacifica	72.7	95	204	440

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Table 10

57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	72.7	94	203	437
58	Barranca Parkway	Technology Drive West to Ada	72.6	93	201	433
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	72.4	90	194	417
60	Barranca Parkway	Culver Drive to West Yale Loop	72.2	88	190	409
61	Barranca Parkway	East Yale Loop to Jeffrey Road	72.1	87	187	402
62	Barranca Parkway	West Yale Loop to Lake Road	72.0	85	184	396
63	Barranca Parkway	Ada to Alton Parkway	72.0	86	184	397
64	Barranca Parkway	Lake Road to Creek Road	71.7	82	176	378
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.7	206	444	957
66	Barranca Parkway	Discovery/Herchel to Banting	71.6	80	172	371
67	Barranca Parkway	Lyon to East Yale Loop	71.5	78	169	364
68	Barranca Parkway	Creek Road to Lyon	71.4	78	167	360
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.7	121	261	561
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	70.8	71	153	329
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.4	116	249	537
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.7	70	150	323
73	Barranca Parkway	Jamboree Road to Construction Circle	71.1	99	213	459
74	Barranca Parkway	Santa Rosa to Culver Drive	71.0	97	210	452
75	Barranca Parkway	FedEx to Discovery/Herchel	70.3	65	140	302
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	70.3	65	140	302
77	Barranca Parkway	Laguna Canyon Road to FedEx	70.1	64	138	297
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.6	173	373	804
79	Barranca Parkway	Construction Circle to Fire Station	70.5	91	195	420
80	Barranca Parkway	Fire Station to Harvard Avenue	70.5	91	195	420
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.5	91	197	423
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	70.2	87	186	402
83	Bay Tree	Trabuco Road to Roosevelt	57.2	RW	RW	RW
84	Beacon	Ridge Valley to Benchmark	59.7	RW	RW	RW
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.5	RW	RW	RW
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.7	RW	129	277
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.3	78	169	363

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Table 10

88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.6	RW	130	279
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	RW	123	264
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	68.0	RW	119	256
91	Bosque	Cadence to Great Park Boulevard	65.2	RW	39	83
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.5	RW	RW	64
93	Bosque	Benchmark to Cadence	63.1	RW	RW	60
94	Bosque	Great Park Boulevard to Beacon	56.7	RW	RW	RW
95	Bosque	Beacon to S 5th Street	56.1	RW	RW	RW
96	Bryan Avenue	Jamboree Road to Market Place	69.0	RW	115	249
97	Bryan Avenue	Market Place to El Camino Real	68.9	RW	114	245
98	Bryan Avenue	Rubicon to Culver Drive	68.9	RW	114	245
99	Bryan Avenue	El Camino Real to Rubicon	68.9	RW	113	243
100	Bryan Avenue	Eastwood to Jeffrey Road	67.0	RW	85	183
101	Bryan Avenue	Westwood to Yale Avenue	66.7	RW	81	174
102	Bryan Avenue	Culver Drive to Westwood	66.6	RW	80	172
103	Bryan Avenue	Yale Avenue to Eastwood	66.5	RW	79	170
104	Cadence	Pusan to Chinon	65.6	RW	41	89
105	Cadence	Bosque to Pusan	65.3	RW	39	85
106	Cadence	Ridge Valley (O Street) to Bosque	63.9	RW	RW	68
107	Cadence	Chinon to Merit	62.2	RW	RW	53
108	Cadence	Merit to Astor	59.4	RW	RW	RW
109	California Avenue	University Drive to Academy Way	67.2	RW	88	190
110	California Avenue	Campus Drive to Harvard Avenue	64.2	RW	RW	119
111	California Avenue	Theory to Bison Avenue	64.0	RW	RW	115
112	Campus Drive	Carlson Avenue to University Drive	73.3	83	178	384
113	Campus Drive	University Drive to Bridge Road	71.7	82	176	378
114	Campus Drive	Jamboree Road to Carlson Avenue	71.5	79	171	367
115	Campus Drive	Stanford Court to Berkeley Avenue	71.0	73	158	341
116	Campus Drive	California Avenue to Culver Drive	70.9	72	154	333
117	Campus Drive	Berkeley Avenue to Cornell	69.9	RW	133	286
118	Campus Drive	Martin to Von Karman Avenue	69.1	RW	118	254

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Table 10

119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.7	RW	110	237
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.5	RW	106	229
121	Campus Drive	MacArthur Boulevard to Martin	68.3	RW	103	222
122	Campus Drive	Teller Avenue to Jamboree Road	67.5	RW	92	199
123	Carlson Avenue	Michelson Drive to Campus Drive	67.9	RW	98	211
124	Chinon	Irvine Boulevard to Cadence	59.0	RW	RW	RW
125	Creek Road	Alton Parkway to Barranca Parkway	56.2	RW	RW	RW
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.9	154	331	713
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.8	152	327	704
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	153	331	712
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.9	152	327	704
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	146	315	679
131	Culver Drive	San Leandro to Main Street	73.3	140	302	650
132	Culver Drive	Harvard Avenue to University Drive	73.3	140	302	651
133	Culver Drive	Trabuco Road to Farwell Avenue	74.2	153	330	711
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	137	296	637
135	Culver Drive	Main Street to Alton Parkway	73.1	135	290	625
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	133	286	617
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.9	131	282	608
138	Culver Drive	Barranca Parkway to Warner Avenue	72.9	131	281	606
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.0	85	182	393
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.5	124	267	576
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	124	266	574
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	122	263	567
143	Culver Drive	Palo Verde to Campus Drive	71.6	80	172	370
144	Culver Drive	University Drive to Sandburg Way	72.2	117	253	545
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.2	131	281	606
146	Culver Drive	Campus Drive to High School	72.1	116	250	539
147	Culver Drive	High School to Harvard Avenue	72.0	115	247	532
148	Culver Drive	Bryan Avenue to Florence	71.8	111	238	513
149	Culver Drive	Portola Parkway to Settlers	71.2	75	161	348

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Table 10

150	Culver Drive	Florence to Irvine Boulevard	71.7	109	235	506
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	91	196	423
152	Culver Drive	Viewpark to Meadowood	70.4	89	192	414
153	Culver Drive	Settlers to Furrow	68.5	RW	107	230
154	Culver Drive	Meadowood to Portola Parkway	69.0	RW	155	333
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	64.0	RW	RW	115
156	Discovery Drive	Waterworks Way to Irvine Center Drive	61.2	RW	RW	76
157	East Yale Loop	Alton Parkway to Witherspoon	65.5	RW	68	146
158	East Yale Loop	Osborn Street to Barranca Parkway	65.3	RW	65	141
159	East Yale Loop	Yale Avenue to Springbrook South	64.9	RW	RW	132
160	East Yale Loop	Springbrook North to Alton Parkway	63.6	RW	RW	108
161	East Yale Loop	Woodspring to Yale Avenue	62.7	RW	RW	95
162	East Yale Loop	Barranca Parkway to Eastshore	62.4	RW	RW	91
163	Eastwood	Bryan Avenue to Monticello	60.8	RW	RW	42
164	Eastwood	Columbus to Bryan Avenue	58.8	RW	RW	RW
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.1	RW	87	187
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	RW	RW	90
167	Fairbanks	Alton Parkway to Astor	69.8	RW	78	168
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.9	RW	50	109
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.0	RW	RW	116
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	63.3	RW	RW	103
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	62.1	RW	RW	86
172	Gateway Boulevard	Irvine Center Drive to Meridian	59.2	RW	RW	RW
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.5	119	257	553
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.2	65	139	300
175	Great Park Boulevard (EB)	Bosque to Skyhawk	68.9	RW	68	146
176	Great Park Boulevard (WB)	Bosque to Skyhawk	68.3	RW	62	135
177	Harvard Avenue	University Drive to Michelson Drive	72.0	51	110	238
178	Harvard Avenue	Michelson Drive to Coronado	70.5	67	145	312
179	Harvard Avenue	San Marino to Alton Parkway	70.2	65	139	300
180	Harvard Avenue	Coronado to Main Street	70.2	64	138	298

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Table 10

181	Harvard Avenue	San Carlo to San Marino	70.1	64	137	295
182	Harvard Avenue	Main Street to San Carlo	70.0	63	135	291
183	Harvard Avenue	Alton Parkway to San Leon	68.6	RW	109	234
184	Harvard Avenue	San Juan to Barranca Parkway	68.7	RW	110	237
185	Harvard Avenue	San Leon to San Juan	68.6	RW	108	233
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.4	RW	91	195
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.4	RW	90	193
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.9	RW	97	210
189	Harvard Avenue	Bridge Road to University Drive	67.8	RW	96	206
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.8	RW	96	207
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.8	RW	89	192
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.2	RW	88	190
193	Harvard Avenue	Culver Drive to California Avenue	67.2	RW	87	188
194	Harvard Avenue	Berkeley to Bridge Road	67.1	RW	87	187
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.8	RW	82	177
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	RW	RW	RW
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.6	RW	RW	RW
198	Hubble	Irvine Center Drive to Bunsen	56.1	RW	RW	RW
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.3	120	258	557
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.1	116	250	540
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.1	128	277	596
202	Irvine Boulevard	Merit to Alton	71.6	108	232	500
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.7	109	234	505
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.1	99	213	459
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	98	211	455
206	Irvine Boulevard	Palo Lado to Yale Avenue	71.2	101	217	467
207	Irvine Boulevard	Culver Drive to Palo Lado	71.1	100	216	464
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	71.0	98	211	455
209	Irvine Boulevard	Old Myford Road to Market Place	71.0	98	212	457
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	71.0	97	210	452
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.9	97	209	451

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Table 10

212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.9	97	209	449
213	Irvine Boulevard	Jeffrey Road to Groveland	71.0	97	210	452
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.7	93	200	431
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to JeffreyRoad	70.6	93	200	431
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	90	194	418
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.5	91	196	423
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.4	90	193	416
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.4	89	192	414
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	87	188	404
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.9	RW	179	386
222	Irvine Boulevard	Parker to Bake Parkway	69.7	RW	172	370
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	RW	146	315
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.7	121	260	559
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	71.9	112	241	519
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.3	113	244	525
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.8	110	237	511
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.5	107	229	494
229	Irvine Center Drive	Culver Drive to Deerwood	71.5	106	227	490
230	Irvine Center Drive	Deerwood to Yale Avenue	71.4	105	226	486
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	71.5	105	227	489
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.4	104	223	481
233	Irvine Center Drive	Alton Parkway to Spectrum	71.1	99	213	459
234	Irvine Center Drive	Spectrum to Pacifica	71.0	98	211	455
235	Irvine Center Drive	Hearthstone to Culver Drive	70.9	96	208	448
236	Irvine Center Drive	Charter to Barranca Parkway	70.7	93	201	433
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.5	91	195	420
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.6	91	197	424
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.5	91	196	422
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.2	87	187	403
241	Irvine Center Drive	Research to Hubble	70.0	84	181	389
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	69.9	RW	177	382

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Table 10

243	Irvine Center Drive	Bake Parkway to Muller	69.9	RW	177	381
244	Irvine Center Drive	Discovery to Charter	69.9	RW	178	383
245	Irvine Center Drive	Hubble to Bake Parkway	69.6	RW	170	366
246	Irvine Center Drive	Muller to Tesla	69.4	RW	165	355
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.2	RW	160	344
248	Irvine Center Drive	Tesla to Scientific Way	69.1	RW	158	339
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.9	RW	153	329
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.7	RW	148	319
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.7	RW	147	317
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.6	RW	146	314
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	70.9	97	209	451
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	168	362	780
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.6	189	408	878
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.9	153	329	708
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	77.0	292	630	1357
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.7	148	319	687
259	Jamboree Road	Main Street to Kelvin Avenue	76.4	266	573	1234
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.3	214	462	996
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	76.0	253	545	1174
262	Jamboree Road	McGaw Avenue to Alton Parkway	76.0	252	542	1168
263	Jamboree Road	Birch Street to Campus Drive	73.0	132	285	615
264	Jamboree Road	Dupont Drive to Michelson Drive	73.9	145	312	672
265	Jamboree Road	Alton Parkway to Beckman	75.6	237	510	1099
266	Jamboree Road	Fairchild Road to Birch Street	73.5	137	294	634
267	Jamboree Road	Beckman to Barranca Parkway	75.3	226	487	1049
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	218	470	1013
269	Jamboree Road	Campus Drive to Dupont Drive	73.1	129	279	601
270	Jamboree Road	El Camino Real to West Drive	74.9	214	460	992
271	Jamboree Road	West Drive to Bryan Avenue	75.0	214	461	994
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.6	203	438	944
273	Jamboree Road	Koll Center to Fairchild Road	72.7	122	263	566

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Table 10

274	Jamboree Road	MacArthur Boulevard to Koll Center	72.7	120	259	559
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.7	94	202	436
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.1	261	562	1210
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.3	230	495	1067
278	Jamboree Road	Edinger Avenue to Walnut Avenue	78.0	218	469	1012
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.4	104	223	481
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.3	114	245	527
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.9	97	209	449
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.8	95	205	442
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.7	94	203	436
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.8	95	204	439
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.6	92	199	429
286	Jeffrey Road	Quail Creek to Alton Parkway	70.7	93	200	431
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.4	89	192	413
288	Jeffrey Road	Trabuco Road to Hideaway	69.7	RW	172	372
289	Jeffrey Road	Hideaway to Bryan Avenue	69.7	RW	172	371
290	Jeffrey Road	Roosevelt to Grove	70.4	85	182	393
291	Jeffrey Road	Grove to Trabuco Road	70.2	83	178	384
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.5	RW	145	312
293	Jeffrey Road	Encore to Portola Parkway	65.6	RW	92	197
294	Jeffrey Road	Irvine Boulevard to Encore	65.4	RW	89	192
295	Jeronimo Road	Goodyear to Bake Parkway	64.5	RW	RW	125
296	Jeronimo Road	Alton Parkway to Goodyear	64.3	RW	RW	120
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.4	141	305	656
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	70.0	RW	134	289
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	69.1	RW	118	255
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	68.0	RW	79	170
301	Laguna Canyon Road	Irvine Center Drive to Discovery	67.5	RW	92	198
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	68.0	RW	79	170
303	Laguna Canyon Road	Pasteur to Alton Parkway	67.0	RW	85	183
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	66.4	RW	77	167

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Table 10

305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.1	RW	74	160
306	Laguna Canyon Road	Barranca Parkway to Waterworks	65.6	RW	68	148
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.5	RW	125	269
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.5	RW	124	267
309	Lake Forest Drive	Tesla to Bake Parkway	66.6	RW	107	231
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	RW	RW	RW
311	Lynx	Irvine Boulevard to Astor	53.2	RW	RW	RW
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.7	281	606	1305
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.7	278	599	1291
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.6	275	593	1278
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	RW	178	382
316	MacArthur Boulevard	Fairchild Road to University Drive	69.8	RW	176	380
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	86	185	399
318	MacArthur Boulevard	Michelson Drive to Douglas	72.2	141	303	652
319	MacArthur Boulevard	Douglas to Campus Drive	72.2	140	302	650
320	MacArthur Boulevard	Skypark to Main Street	69.5	RW	160	344
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.4	RW	141	303
322	MacArthur Boulevard	Birch Street to Jamboree Road	67.1	RW	117	251
323	MacArthur Boulevard	Campus Drive to Birch Street	69.4	RW	198	427
324	Main Street	Gillette Avenue to Von Karman Avenue	70.8	90	195	420
325	Main Street	MacArthur Boulevard to Mercantile	70.3	83	179	386
326	Main Street	Executive Park to MacArthur Boulevard	68.4	RW	142	305
327	Main Street	Von Karman Avenue to Cartwright	68.4	RW	141	304
328	Main Street	McDurmott to Red Hill Avenue	68.1	RW	135	290
329	Main Street	Red Hill Avenue to Executive Circle	68.0	RW	133	286
330	Main Street	Jamboree Road to Union	67.8	RW	129	279
331	Main Street	Culver Drive to West Yale Loop	67.2	RW	87	188
332	Main Street	Siglo to Jamboree Road	67.7	RW	127	273
333	Main Street	Veneto to Harvard Avenue	67.5	RW	124	267
334	Main Street	Paseo Westpark to Culver Drive	66.3	RW	77	166
335	Main Street	Harvard Avenue to San Mateo	66.3	RW	76	164

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Table 10

336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.3	71	153	330
337	Marine Way	Alton Parkway to Bake Parkway	69.3	RW	121	261
338	Marine Way	Lynx to Barranca Parkway	69.3	RW	122	262
339	Marine Way	County Access to Treble	68.4	RW	106	228
340	Marine Way	Ridge Valley (O Street) to Skyhawk	68.2	RW	102	220
341	Marine Way	Skyhawk to County Access	67.2	RW	87	187
342	Marine Way	Barranca Parkway to Alton Parkway	66.8	RW	82	177
343	Marine Way	Treble to Lynx	66.4	RW	78	168
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	64.3	RW	RW	121
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	64.2	RW	RW	119
346	McGaw Avenue	Daimler to Red Hill Avenue	62.5	RW	RW	91
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.4	RW	RW	RW
348	Meadowood	Culver Drive to Canyonwood	59.8	RW	RW	RW
349	Meridian	Spectrum to Alton Parkway	55.5	RW	RW	RW
350	Meridian	Alton Parkway to Gateway Boulevard	54.7	RW	RW	RW
351	Merit	Irvine Boulevard to Cadence	58.0	RW	RW	RW
352	Michelson Drive	Riparian to Harvard Avenue	68.3	RW	103	222
353	Michelson Drive	Almond Tree Lane to Yale Avenue	67.1	RW	52	112
354	Michelson Drive	Von Karman Avenue to Obsidian	68.0	RW	99	214
355	Michelson Drive	Parkside to Culver Drive	67.8	RW	96	206
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.8	RW	49	106
357	Michelson Drive	Carlson to Prince	67.3	RW	107	230
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.3	RW	90	193
359	Michelson Drive	Harvard Avenue to Parkside	66.8	RW	83	178
360	Michelson Drive	Bixby to Von Karman Avenue	66.7	RW	81	175
361	Michelson Drive	Jamboree Road to Carlson	69.6	RW	122	262
362	Michelson Drive	Teller to Jamboree Road	69.6	RW	122	264
363	Michelson Drive	Jordan East to University Drive	66.9	RW	40	87
364	Michelson Drive	Culver Drive to Angell	66.2	RW	48	104
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	39	84	182
366	Modjeska (A Street)	South of Irvine Boulevard	61.0	RW	RW	44

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Table 10

367	Muirlands Boulevard	Bake Parkway to City Limits	67.2	RW	88	190
368	Muirlands Boulevard	Alton Parkway to Sterling	66.3	RW	76	165
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.3	RW	76	165
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.6	RW	80	173
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.1	RW	63	137
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	61.8	RW	RW	83
373	Northwood	Yale Avenue to Savannah	62.5	RW	RW	55
374	Northwood	Goldrush to Yale Avenue	61.5	RW	RW	47
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	69.2	RW	72	155
376	Pacifica	Gateway to Barranca Parkway	65.2	RW	65	140
377	Pacifica	Alton Parkway to Gateway	64.0	RW	RW	116
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	62.8	RW	RW	95
379	Pacifica	Meridian to Alton Parkway	60.8	RW	RW	70
380	Park Place	Christamon South to Yale Avenue	57.0	RW	RW	RW
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.7	81	174	375
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.7	81	174	374
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.5	78	169	363
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	71.1	74	159	343
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.1	64	137	296
386	Portola Parkway	Gatepark to Culver Drive	70.7	94	202	436
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.7	93	200	432
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	91	196	423
389	Portola Parkway	Jamboree Road to Bellevue	70.5	91	195	420
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.4	90	194	418
391	Portola Parkway	Yale Avenue to Jeffrey Road	70.2	87	187	404
392	Portola Parkway	Culver Drive to Yale Avenue	69.7	RW	172	371
393	Portola Parkway	Silverado to Portola Springs	68.6	RW	109	235
394	Pusan	Irvine Boulevard to Cadence	56.1	RW	RW	RW
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.4	RW	91	196
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.5	RW	67	145
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.9	RW	RW	RW

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Table 10

398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.6	107	230	496
399	Red Hill Avenue	I-405 Over Crossing to Main Street	70.2	64	139	299
400	Red Hill Avenue	Alton Parkway to Deere Avenue	70.1	85	184	397
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	70.0	84	181	391
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.9	RW	177	382
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.4	74	160	345
404	Red Hill Avenue	Main Street to Skypark East	70.8	67	145	313
405	Research Drive	Hubble to Bake Parkway	69.5	RW	125	270
406	Research Drive	Scientific to Lake Forest Drive	67.8	RW	96	207
407	Research Drive	Bake Parkway to Muller	66.7	RW	82	176
408	Research Drive	Irvine Center Drive to Bunsen	65.7	RW	69	149
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.3	RW	89	191
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.4	RW	78	168
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	RW	73	157
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	RW	RW	RW
413	Ridgeline Drive	Concordia East to University Drive	68.7	RW	71	153
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.4	RW	67	145
415	Rockfield Avenue	Whatney to McLaren	67.7	RW	95	204
416	Rockfield Avenue	Bake Parkway to Whatney	64.2	RW	RW	119
417	Rockfield Avenue	Thomas to Bake Parkway	63.1	RW	RW	100
418	Roosevelt	Jeffrey Road to Vision	66.6	RW	80	173
419	Roosevelt	Yale Avenue to Van Buren	68.2	RW	49	106
420	Roosevelt	Vision to Bay Tree	66.4	RW	78	167
421	Roosevelt	Nimitz to Jeffrey Road	65.9	RW	72	155
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.7	RW	70	151
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	RW	RW	56
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	72.1	116	250	539
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	72.0	114	247	531
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.6	122	262	564
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.7	122	262	565
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.8	208	448	965

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Table 10

429	Sand Canyon Avenue	Trabuco Road to Towngate	71.3	102	220	473
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	70.9	96	207	447
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	74.0	184	396	854
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.6	92	199	429
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.5	171	369	794
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.5	103	222	479
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.7	177	382	824
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.7	93	201	433
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.3	88	189	408
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	70.4	66	142	306
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	153	331	712
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.6	88	190	410
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.8	79	170	366
442	Scientific Way	Irvine Center Drive to Wald	54.9	RW	RW	RW
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	69.2	RW	72	154
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.6	RW	75	161
445	Skyhawk	Great Park Boulevard to Marine Way	59.6	13	27	59
446	Southwood	Yale Avenue to Colt	60.6	9	19	41
447	Southwood	Challenger to Yale Avenue	60.3	8	18	39
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	62.0	18	39	85
449	Spectrum Center Drive (FortuneDrive)	Quassar Drive (Spectrum) to Gatewayb	62.5	20	42	91
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.6	9	20	43
451	Technology Drive	Barranca Parkway to Alton Parkway	70.6	68	147	318
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	69.3	56	120	259
453	Technology Drive	I-5/SR-133 to Barranca Parkway	69.1	54	117	252
454	Technology Drive	Ada to Alton Parkway	63.1	22	47	100
455	Toledo Way	Bake Parkway to City Limits	65.7	32	70	151
456	Toledo Way	Goodyear to Bake Parkway	64.7	28	60	129
457	Toledo Way	Alton Parkway to Parker	64.4	26	57	122
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.2	40	87	188
459	Trabuco Road	Jeffrey Road to Keystone	66.9	39	84	181

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Table 10

460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.8	38	82	176
461	Trabuco Road	Monroe to Yale Avenue	66.7	38	81	176
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.6	37	80	173
463	Trabuco Road	Yale Avenue to Remington	66.3	35	76	164
464	Trabuco Road	Remington to Jeffrey Road	66.1	34	74	158
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.7	52	111	239
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.8	27	58	125
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.8	27	57	124
468	Turtle Rock Drive	Canyon Park to Ridgeline	67.0	24	51	109
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	15	32	69
470	Turtle Rock Drive	Campus Drive to Hillgate	64.0	25	54	116
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.4	20	43	92
472	University Drive	Golden Glow to Yale Avenue	73.0	99	213	458
473	University Drive	Ridgeline to Michelson Drive	72.6	111	240	517
474	University Drive	Culver Drive to Golden Glow	72.9	97	209	450
475	University Drive	Yale Avenue to Ridgeline	72.4	90	193	417
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.7	127	274	591
477	University Drive	Mesa to Campus Drive	74.6	121	260	561
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.6	122	263	567
479	University Drive	California Avenue to Mesa	74.4	119	256	551
480	University Drive	Campus Drive to Harvard Avenue	70.7	94	203	437
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.7	65	140	301
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.3	89	191	411
483	University Drive	San Joaquin to Culver Drive	69.8	81	176	378
484	University Drive	Harvard Avenue to San Joaquin	69.8	81	175	377
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.0	46	98	212
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	69.1	43	93	201
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	66.8	38	83	178
488	Valley Oak Drive	Alton Parkway to Hawkcreek	64.8	28	61	131
489	Von Karman Avenue	Marriott to Morse Avenue	70.9	72	155	334
490	Von Karman Avenue	Michelson Drive to Quartz	70.8	70	151	326

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Table 10

491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.7	70	150	324
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	70.4	80	172	370
493	Von Karman Avenue	Main Street to Anchor	70.6	69	149	320
494	Von Karman Avenue	Anchor to McGaw Avenue	70.5	67	145	313
495	Von Karman Avenue	Morse to Main Street	70.2	65	140	301
496	Von Karman Avenue	Martin to Dupont Drive	69.6	59	126	272
497	Von Karman Avenue	Campus Drive to Martin	69.5	58	125	269
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.5	58	125	268
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	70.9	71	154	332
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	69.1	54	117	252
501	Walnut Avenue	The Mall Street to Culver Drive	68.8	52	111	240
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.7	51	111	239
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.5	50	107	230
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.3	48	104	225
505	Walnut Avenue	Culver Drive to Franciscan Street	68.4	49	105	226
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	68.0	62	133	286
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.8	60	129	278
508	Walnut Avenue	Yale Avenue to Kazan Street	67.2	41	88	189
509	Walnut Avenue	Wisteria to Jeffrey Road	67.2	40	87	188
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.1	64	137	295
511	Warner Avenue	Construction North to Harvard Avenue	68.5	50	107	231
512	Warner Avenue	Harvard Avenue to Paseo Westpark	67.0	39	85	182
513	Warner Avenue	Santa Ynez to Culver Drive	66.0	34	73	157
514	Warner Avenue	Culver Drive to West Yale Loop	65.7	32	70	150
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	25	54	116
516	West Yale Loop	Eagle Run to Main Street	63.9	24	52	113
517	West Yale Loop	Thunder Run to Yale Avenue	63.9	25	53	114
518	West Yale Loop	Main Street to Timber Run	62.8	21	45	96
519	West Yale Loop	Yale Avenue to Shorebird	63.0	21	46	100
520	West Yale Loop	Warner Avenue to Stonecreek South	62.6	20	43	93
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	20	42	91

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Table 10

522	West Yale Loop	Stonecreek North to Warner Avenue	62.5	20	42	91
523	West Yale Loop	Birdsong to Barranca Parkway	62.3	19	42	90
524	Westwood	Yorktown to Bryan Avenue	63.5	14	30	65
525	Westwood	Bryan Avenue to Leaf	61.5	10	22	47
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	30	66	141
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.3	25	54	116
528	Yale Avenue	Walnut Avenue to Roosevelt	71.0	47	101	218
529	Yale Avenue	Roosevelt to Trabuco Road	67.1	40	86	185
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.9	39	84	180
531	Yale Avenue	West Yale Loop to Irvine Center Drive	66.4	36	77	166
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.7	32	70	151
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.7	32	70	151
534	Yale Avenue	Trabuco Road to Southwood	65.7	32	69	149
535	Yale Avenue	Southwood to Bryan Avenue	65.5	31	67	145
536	Yale Avenue	Northwood to Irvine Boulevard	65.1	30	64	138
537	Yale Avenue	Bryan Avenue to Monticello	65.0	29	63	135
538	Yale Avenue	Irvine Boulevard to Park Place	64.3	26	56	120
539	Yale Avenue	University Drive to Royce	63.5	18	40	85
540	Yale Court	Arborwood to Portola Parkway	60.3	9	18	40

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

Table 11:Existing and Current General Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]			Incremental Noise Level Increase Threshold[3]	
			Existing	Current General Plan	Project Addition	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	0.0	0.0	5.0	No
2	Ada	Alton Parkway to Barranca PArkway	60.3	67.1	6.8	3.0	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	72.6	1.3	1.5	No
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	73.3	1.2	1.5	No
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.3	71.5	0.2	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	70.5	1.2	1.5	No
7	Alton Parkway	Jeffrey Road to Royal Oak	70.1	70.4	0.3	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	70.4	6.7	3.0	**Yes**
9	Alton Parkway	Culver Drive to West Yale Loop	70.4	70.5	0.1	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.3	70.5	0.2	1.5	No
11	Alton Parkway	Technology Drive West to Ada	70.2	71.4	1.2	1.5	No
12	Alton Parkway	Creek Road to East Yale Loop	70.1	70.3	0.2	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	69.9	1.8	1.5	**Yes**
14	Alton Parkway	Lake Road to Creek Road	70.1	70.3	0.2	1.5	No
15	Alton Parkway	Telemetry to Banting	69.0	69.8	0.8	1.5	No
16	Alton Parkway	Irvine Boulevard to Commercentre	70.3	71.0	0.7	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.0	69.7	0.7	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	69.8	1.2	1.5	No
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	73.6	1.5	1.5	**Yes**
20	Alton Parkway	Laguna Canyon Road to Jenner	69.0	69.7	0.7	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	70.4	1.3	1.5	No
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.4	69.7	0.3	1.5	No
23	Alton Parkway	Banting to Pacifica	68.4	69.3	0.9	1.5	No
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.1	70.3	0.2	1.5	No
25	Alton Parkway	Ada to Technology Drive East	69.2	70.2	1.0	1.5	No
26	Alton Parkway	Von Karman Avenue to Jamboree Road	68.7	69.2	0.5	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.8	69.9	0.1	1.5	No
28	Alton Parkway	Hughes to Morgan	69.5	69.7	0.2	1.5	No

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Table 11

29	Alton Parkway	Morgan to Toledo Way	68.8	69.0	0.2	1.5	No
30	Alton Parkway	San Marino to Culver Drive	68.8	69.0	0.2	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.0	68.6	0.6	1.5	No
32	Alton Parkway	Hospital to Laguna Canyon Road	70.7	71.5	0.8	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.1	71.4	0.3	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.1	68.5	0.4	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	68.0	69.0	1.0	1.5	No
36	Alton Parkway	Fairbanks to Foster	67.5	68.7	1.2	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.2	68.4	0.2	1.5	No
38	Alton Parkway	Pacifica to Meridian	69.7	70.7	1.0	1.5	No
39	Alton Parkway	Bertea to Fairbanks	68.1	68.3	0.2	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	67.5	0.9	1.5	No
41	Alton Parkway	Paseo Westpark to San Marino	67.9	68.0	0.1	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	66.9	67.1	0.2	1.5	No
43	Astor	Lynx to Fairbanks	57.5	66.9	9.4	5.0	**Yes**
44	Astor	Cadence to Lynx	0.0	66.0	66.0	5.0	**Yes**
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	75.4	76.4	1.0	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.7	72.9	0.2	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	74.7	75.1	0.4	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	71.9	72.0	0.1	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.5	71.6	0.1	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.4	71.6	0.2	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	68.5	69.3	0.8	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.1	64.6	0.5	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	61.9	63.0	1.1	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	57.6	59.3	1.7	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	71.7	1.2	1.5	No
56	Barranca Parkway	Banting to Pacifica	70.7	71.8	1.1	1.5	No
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	70.9	1.1	1.5	No
58	Barranca Parkway	Technology Drive West to Ada	70.4	71.5	1.1	1.5	No
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	70.8	1.5	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	71.9	72.0	0.1	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	71.7	0.0	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.6	71.8	0.2	1.5	No

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63	Barranca Parkway	Ada to Alton Parkway	70.2	72.3	2.1	1.5	**Yes**
64	Barranca Parkway	Lake Road to Creek Road	71.2	71.4	0.2	1.5	No
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	74.4	1.1	1.5	No
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	71.1	1.4	1.5	No
67	Barranca Parkway	Lyon to East Yale Loop	71.0	71.1	0.1	1.5	No
68	Barranca Parkway	Creek Road to Lyon	70.9	71.1	0.2	1.5	No
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	71.5	72.4	0.9	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	70.6	2.1	1.5	**Yes**
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.0	72.1	0.1	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	70.4	1.3	1.5	No
73	Barranca Parkway	Jamboree Road to Construction Circle	70.1	70.7	0.6	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	69.8	70.6	0.8	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	69.6	0.8	1.5	No
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	69.7	1.4	1.5	No
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	69.4	0.6	1.5	No
78	Barranca Parkway	Pullman Street to Red Hill Avenue	72.7	73.4	0.7	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	69.4	70.1	0.7	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	69.4	70.1	0.7	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	69.3	70.1	0.8	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.2	69.7	0.5	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	56.1	57.2	1.1	5.0	No
84	Beacon	Ridge Valley to Benchmark	0.0	59.0	59.0	5.0	**Yes**
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	56.7	56.7	5.0	**Yes**
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	68.6	69.7	1.1	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.0	70.2	0.2	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	67.5	68.5	1.0	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	67.5	68.2	0.7	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.5	67.9	0.4	1.5	No
91	Bosque	Cadence to Great Park Boulevard	63.0	64.8	1.8	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	59.7	63.0	3.3	5.0	No
93	Bosque	Benchmark to Cadence	59.7	63.0	3.3	5.0	No
94	Bosque	Great Park Boulevard to Beacon	0.0	56.9	56.9	5.0	**Yes**
95	Bosque	Beacon to S 5th Street	0.0	55.9	55.9	5.0	**Yes**
96	Bryan Avenue	Jamboree Road to Market Place	68.7	68.9	0.2	1.5	No

Table 11

97	Bryan Avenue	Market Place to El Camino Real	68.7	68.9	0.2	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.7	68.9	0.2	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.7	68.9	0.2	1.5	No
100	Bryan Avenue	Eastwood to Jeffrey Road	65.8	66.3	0.5	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.3	0.0	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.3	66.4	0.1	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	65.8	66.0	0.2	1.5	No
104	Cadence	Pusan to Chinon	64.5	64.1	-0.4	3.0	No
105	Cadence	Bosque to Pusan	65.7	64.2	-1.5	1.5	No
106	Cadence	Ridge Valley (O Street) to Bosque	62.6	64.0	1.4	3.0	No
107	Cadence	Chinon to Merit	62.6	59.1	-3.5	3.0	No
108	Cadence	Merit to Astor	0.0	58.6	58.6	5.0	**Yes**
109	California Avenue	University Drive to Academy Way	64.3	66.2	1.9	3.0	No
110	California Avenue	Campus Drive to Harvard Avenue	63.2	64.1	0.9	3.0	No
111	California Avenue	Theory to Bison Avenue	63.1	64.0	0.9	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	70.9	73.0	2.1	1.5	**Yes**
113	Campus Drive	University Drive to Bridge Road	70.1	71.7	1.6	1.5	**Yes**
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	71.3	2.3	1.5	**Yes**
115	Campus Drive	Stanford Court to Berkeley Avenue	70.1	71.0	0.9	1.5	No
116	Campus Drive	California Avenue to Culver Drive	68.9	70.9	2.0	1.5	**Yes**
117	Campus Drive	Berkeley Avenue to Cornell	68.9	69.9	1.0	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	67.5	68.7	1.2	1.5	No
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.5	68.6	0.1	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	68.1	1.3	1.5	No
121	Campus Drive	MacArthur Boulevard to Martin	67.5	68.1	0.6	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	66.8	67.2	0.4	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	67.8	3.3	3.0	**Yes**
124	Chinon	Irvine Boulevard to Cadence	56.6	58.3	1.7	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	55.3	56.0	0.7	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.4	73.7	0.3	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.4	73.9	0.5	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.7	73.9	0.2	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.7	73.9	0.2	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.4	73.6	0.2	1.5	No

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Table 11

131	Culver Drive	San Leandro to Main Street	73.2	73.3	0.1	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	72.7	73.3	0.6	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.1	74.4	0.3	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	72.9	73.2	0.3	1.5	No
135	Culver Drive	Main Street to Alton Parkway	72.7	73.1	0.4	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	72.7	73.0	0.3	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.6	72.9	0.3	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.6	72.8	0.2	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	71.4	72.1	0.7	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.3	72.6	0.3	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	71.9	72.5	0.6	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.1	72.4	0.3	1.5	No
143	Culver Drive	Palo Verde to Campus Drive	71.4	71.6	0.2	1.5	No
144	Culver Drive	University Drive to Sandburg Way	71.5	72.2	0.7	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	72.8	73.3	0.5	1.5	No
146	Culver Drive	Campus Drive to High School	71.6	72.1	0.5	1.5	No
147	Culver Drive	High School to Harvard Avenue	71.6	72.0	0.4	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.5	71.8	0.3	1.5	No
149	Culver Drive	Portola Parkway to Settlers	68.9	71.1	2.2	1.5	**Yes**
150	Culver Drive	Florence to Irvine Boulevard	71.3	71.7	0.4	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.0	70.5	0.5	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.0	70.5	0.5	1.5	No
153	Culver Drive	Settlers to Furrow	0.0	68.3	68.3	5.0	**Yes**
154	Culver Drive	Meadowood to Portola Parkway	68.3	69.0	0.7	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	63.8	7.2	5.0	**Yes**
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	60.7	60.7	5.0	**Yes**
157	East Yale Loop	Alton Parkway to Witherspoon	64.6	65.3	0.7	3.0	No
158	East Yale Loop	Osborn Street to Barranca Parkway	64.3	65.0	0.7	3.0	No
159	East Yale Loop	Yale Avenue to Springbrook South	62.3	64.3	2.0	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	62.3	63.4	1.1	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.3	62.5	0.2	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.3	62.5	0.2	3.0	No
163	Eastwood	Bryan Avenue to Monticello	59.5	60.5	1.0	5.0	No
164	Eastwood	Columbus to Bryan Avenue	58.5	58.8	0.3	5.0	No

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Table 11

165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	66.9	67.0	0.1	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.2	62.4	0.2	3.0	No
167	Fairbanks	Alton Parkway to Astor	61.3	69.7	8.4	3.0	**Yes**
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	66.8	66.8	5.0	**Yes**
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	63.3	64.0	0.7	3.0	No
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	62.8	5.8	5.0	**Yes**
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	59.4	61.6	2.2	5.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	56.8	58.4	1.6	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	74.1	3.6	1.5	**Yes**
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	69.7	5.7	3.0	**Yes**
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	68.0	68.0	5.0	**Yes**
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	67.6	67.6	5.0	**Yes**
177	Harvard Avenue	University Drive to Michelson Drive	71.2	71.8	0.6	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	69.5	70.2	0.7	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	69.4	70.0	0.6	1.5	No
180	Harvard Avenue	Coronado to Main Street	69.3	70.0	0.7	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.4	69.9	0.5	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.3	69.8	0.5	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.5	68.8	0.3	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.5	68.6	0.1	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.4	68.6	0.2	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	67.4	1.9	1.5	**Yes**
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	67.4	1.9	1.5	**Yes**
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.6	67.9	0.3	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.2	67.6	0.4	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	67.7	1.6	1.5	**Yes**
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	68.7	1.9	1.5	**Yes**
192	Harvard Avenue	California Avenue to Berkeley Avenue	66.1	67.0	0.9	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.1	66.9	0.8	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	66.1	67.0	0.9	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	65.9	66.8	0.9	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	58.4	0.2	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	57.5	57.5	5.0	**Yes**
198	Hubble	Irvine Center Drive to Bunsen	55.5	55.7	0.2	5.0	No

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199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.1	72.3	0.2	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.0	72.2	0.2	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	72.9	73.1	0.2	1.5	No
202	Irvine Boulevard	Merit to Alton	71.4	71.6	0.2	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.4	71.6	0.2	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.9	71.2	0.3	1.5	No
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	70.8	71.0	0.2	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.4	70.6	0.2	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.5	70.6	0.1	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	70.6	0.1	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.3	70.5	0.2	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.5	70.7	0.2	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.3	70.5	0.2	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.3	70.4	0.1	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.6	70.8	0.2	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	69.8	70.9	1.1	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to Jeffrey Road	70.2	70.5	0.3	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.2	70.5	0.3	1.5	No
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.1	70.2	0.1	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	69.9	70.1	0.2	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	69.9	70.1	0.2	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.0	70.2	0.2	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.5	69.6	0.1	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.0	69.6	0.6	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.4	68.6	0.2	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	72.5	1.2	1.5	No
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	71.4	1.7	1.5	**Yes**
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	70.9	72.1	1.2	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	71.3	1.6	1.5	**Yes**
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	71.0	1.5	1.5	**Yes**
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	71.0	1.3	1.5	No
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	71.0	1.4	1.5	No
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	70.9	1.5	1.5	**Yes**
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	71.1	1.4	1.5	No

233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	70.4	1.5	1.5	**Yes**
234	Irvine Center Drive	Spectrum to Pacifica	68.9	70.3	1.4	1.5	No
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	70.6	1.4	1.5	No
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	70.2	2.1	1.5	**Yes**
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	69.7	70.3	0.6	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	70.3	1.2	1.5	No
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	70.0	1.9	1.5	**Yes**
240	Irvine Center Drive	Harvard Avenue to Hearthstone	69.2	70.0	0.8	1.5	No
241	Irvine Center Drive	Research to Hubble	67.9	69.8	1.9	1.5	**Yes**
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	69.4	2.5	1.5	**Yes**
243	Irvine Center Drive	Bake Parkway to Muller	67.9	69.9	2.0	1.5	**Yes**
244	Irvine Center Drive	Discovery to Charter	67.3	69.3	2.0	1.5	**Yes**
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	69.7	1.9	1.5	**Yes**
246	Irvine Center Drive	Muller to Tesla	67.7	69.5	1.8	1.5	**Yes**
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	69.0	1.4	1.5	No
248	Irvine Center Drive	Tesla to Scientific Way	67.1	69.2	2.1	1.5	**Yes**
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	68.9	1.7	1.5	**Yes**
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	68.3	1.6	1.5	**Yes**
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	68.2	1.4	1.5	No
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	68.3	1.5	1.5	**Yes**
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	70.8	1.2	1.5	No
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.3	74.5	0.2	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.1	75.4	0.3	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.5	73.8	0.3	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.5	76.9	0.4	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.5	73.6	0.1	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	75.7	76.2	0.5	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	73.6	74.2	0.6	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.5	75.8	0.3	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.4	75.8	0.4	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.1	72.6	0.5	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.3	73.5	0.2	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.2	75.4	0.2	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	72.2	73.2	1.0	1.5	No

Table 11

267	Jamboree Road	Beckman to Barranca Parkway	75.0	75.2	0.2	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	74.9	75.1	0.2	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.5	72.7	0.2	1.5	No
270	Jamboree Road	El Camino Real to West Drive	74.9	75.1	0.2	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	74.9	75.1	0.2	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.5	74.8	0.3	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	71.7	72.5	0.8	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	71.8	72.5	0.7	1.5	No
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.0	70.8	0.8	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.0	79.1	0.1	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.1	78.2	0.1	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.8	77.9	0.1	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	70.9	71.3	0.4	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	71.8	72.2	0.4	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.4	70.8	0.4	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.3	70.5	0.2	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.2	70.6	0.4	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.4	70.5	0.1	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.3	70.4	0.1	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.4	70.5	0.1	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.1	70.3	0.2	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.4	69.7	0.3	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.4	69.7	0.3	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.0	70.4	0.4	1.5	No
291	Jeffrey Road	Grove to Trabuco Road	70.0	70.3	0.3	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.1	68.5	0.4	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	64.0	66.1	2.1	3.0	No
294	Jeffrey Road	Irvine Boulevard to Encore	64.0	65.6	1.6	3.0	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.4	64.8	0.4	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.1	64.7	0.6	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	72.6	73.3	0.7	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	70.0	2.3	1.5	**Yes**
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	68.1	3.3	3.0	**Yes**
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	68.0	2.0	1.5	**Yes**

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Table 11

301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	67.3	3.7	3.0	**Yes**
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	68.0	2.0	1.5	**Yes**
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	66.9	1.4	1.5	No
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	66.2	1.7	3.0	No
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	64.8	66.0	1.2	3.0	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	63.9	65.6	1.7	3.0	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	68.3	69.2	0.9	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	68.3	69.2	0.9	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	65.3	66.2	0.9	1.5	No
310	Lake Road	Alton Parkway to Barranca Parkway	59.0	59.2	0.2	5.0	No
311	Lynx	Irvine Boulevard to Astor	0.0	53.5	53.5	5.0	**Yes**
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.0	76.4	0.4	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	75.8	76.5	0.7	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	75.7	76.4	0.7	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.7	69.9	0.2	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.7	69.8	0.1	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.4	70.5	0.1	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.3	71.8	0.5	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.3	71.9	0.6	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.0	69.6	0.6	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.0	68.5	0.5	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.5	66.8	0.3	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	68.5	69.1	0.6	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	70.2	0.8	1.5	No
325	Main Street	MacArthur Boulevard to Mercantile	69.4	69.9	0.5	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	67.7	68.2	0.5	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.2	67.8	0.6	1.5	No
328	Main Street	McDurmott to Red Hill Avenue	67.9	68.0	0.1	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.7	67.9	0.2	1.5	No
330	Main Street	Jamboree Road to Union	67.4	67.7	0.3	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.0	67.2	0.2	1.5	No
332	Main Street	Siglo to Jamboree Road	67.2	67.4	0.2	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.4	67.6	0.2	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.2	66.4	0.2	1.5	No

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335	Main Street	Harvard Avenue to San Mateo	66.2	66.3	0.1	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	72.1	4.3	1.5	**Yes**
337	Marine Way	Alton Parkway to Bake Parkway	0.0	69.0	69.0	5.0	**Yes**
338	Marine Way	Lynx to Barranca Parkway	0.0	69.4	69.4	5.0	**Yes**
339	Marine Way	County Access to Treble	59.3	65.3	6.0	5.0	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	67.6	5.6	3.0	**Yes**
341	Marine Way	Skyhawk to County Access	59.3	64.9	5.6	5.0	**Yes**
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	66.3	13.6	5.0	**Yes**
343	Marine Way	Treble to Lynx	0.0	67.1	67.1	5.0	**Yes**
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	62.2	63.6	1.4	3.0	No
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	62.1	63.6	1.5	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	61.0	62.4	1.4	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	57.6	59.2	1.6	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.5	59.8	0.3	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.7	54.9	0.2	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	53.5	54.1	0.6	5.0	No
351	Merit	Irvine Boulevard to Cadence	59.3	57.3	-2.0	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	66.7	67.8	1.1	1.5	No
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.3	66.7	0.4	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	66.7	67.8	1.1	1.5	No
355	Michelson Drive	Parkside to Culver Drive	66.2	66.8	0.6	1.5	No
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.3	66.5	0.2	1.5	No
357	Michelson Drive	Carlson to Prince	65.4	67.0	1.6	1.5	**Yes**
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	66.7	67.0	0.3	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.2	66.8	0.6	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	64.9	66.3	1.4	3.0	No
361	Michelson Drive	Jamboree Road to Carlson	68.0	69.5	1.5	1.5	**Yes**
362	Michelson Drive	Teller to Jamboree Road	68.7	69.5	0.8	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.6	66.8	0.2	1.5	No
364	Michelson Drive	Culver Drive to Angell	65.9	66.1	0.2	1.5	No
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	70.7	71.7	1.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	61.4	60.6	-0.8	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	66.4	67.2	0.8	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.1	66.3	0.2	1.5	No

369	Muirlands Boulevard	Wrigley to Bake Parkway	66.1	66.2	0.1	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	65.9	66.7	0.8	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.0	65.2	0.2	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	60.8	62.1	1.3	3.0	No
373	Northwood	Yale Avenue to Savannah	62.3	62.4	0.1	3.0	No
374	Northwood	Goldrush to Yale Avenue	60.5	61.3	0.8	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	67.4	1.2	1.5	No
376	Pacifica	Gateway to Barranca Parkway	63.3	64.6	1.3	3.0	No
377	Pacifica	Alton Parkway to Gateway	61.8	63.2	1.4	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	61.7	63.2	1.5	3.0	No
379	Pacifica	Meridian to Alton Parkway	58.1	60.0	1.9	5.0	No
380	Park Place	Christamon South to Yale Avenue	56.8	57.0	0.2	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	71.3	1.0	1.5	No
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	71.3	1.0	1.5	No
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	71.3	1.7	1.5	**Yes**
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	70.9	1.3	1.5	No
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	70.0	4.5	1.5	**Yes**
386	Portola Parkway	Gatepark to Culver Drive	69.6	70.3	0.7	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	69.6	70.2	0.6	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	69.6	70.1	0.5	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	69.6	70.1	0.5	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	69.6	70.0	0.4	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	69.8	1.2	1.5	No
392	Portola Parkway	Culver Drive to Yale Avenue	68.6	69.4	0.8	1.5	No
393	Portola Parkway	Silverado to Portola Springs	66.5	68.5	2.0	1.5	**Yes**
394	Pusan	Irvine Boulevard to Cadence	54.0	56.1	2.1	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.3	67.6	0.3	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	64.8	65.6	0.8	3.0	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.4	54.9	0.5	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	70.8	71.3	0.5	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.6	69.9	0.3	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.5	69.9	0.4	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.3	69.7	0.4	1.5	No
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.3	69.7	0.4	1.5	No

Table 11

403	Red Hill Avenue	Skypark East to MacArthur Boulevard	70.2	71.0	0.8	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	69.6	70.4	0.8	1.5	No
405	Research Drive	Hubble to Bake Parkway	65.4	69.5	4.1	1.5	**Yes**
406	Research Drive	Scientific to Lake Forest Drive	65.6	67.6	2.0	1.5	**Yes**
407	Research Drive	Bake Parkway to Muller	66.2	66.5	0.3	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	64.9	65.5	0.6	3.0	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	67.4	1.9	1.5	**Yes**
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	65.9	66.5	0.6	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	65.8	66.0	0.2	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.0	58.1	0.1	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	67.7	68.6	0.9	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	67.7	68.2	0.5	1.5	No
415	Rockfield Avenue	Whatney to McLaren	66.3	67.5	1.2	1.5	No
416	Rockfield Avenue	Bake Parkway to Whatney	62.5	63.8	1.3	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.5	62.6	0.1	3.0	No
418	Roosevelt	Jeffrey Road to Vision	65.2	66.1	0.9	1.5	No
419	Roosevelt	Yale Avenue to Van Buren	67.9	68.1	0.2	1.5	No
420	Roosevelt	Vision to Bay Tree	64.5	65.9	1.4	3.0	No
421	Roosevelt	Nimitz to Jeffrey Road	65.2	65.8	0.6	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	63.7	65.6	1.9	3.0	No
423	Royal Oak	Alton Parkway to Eaglecreek	63.8	64.0	0.2	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	71.9	1.2	1.5	No
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	70.6	71.6	1.0	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	73.6	74.4	0.8	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	72.6	1.4	1.5	No
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	74.6	1.9	1.5	**Yes**
429	Sand Canyon Avenue	Trabuco Road to Towngate	70.0	71.3	1.3	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	70.6	1.4	1.5	No
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	72.7	73.8	1.1	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	70.4	1.1	1.5	No
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.3	73.4	0.1	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	72.4	73.4	1.0	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.2	73.5	0.3	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	69.3	70.6	1.3	1.5	No

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437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	69.2	70.0	0.8	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	69.3	1.3	1.5	No
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.6	72.8	0.2	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	69.7	70.5	0.8	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.3	71.6	0.3	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.6	54.9	0.3	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.6	68.8	0.2	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.1	67.3	0.2	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	60.2	7.4	5.0	**Yes**
446	Southwood	Yale Avenue to Colt	60.5	60.5	0.0	3.0	No
447	Southwood	Challenger to Yale Avenue	59.9	60.3	0.4	5.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.4	61.9	0.5	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.0	62.4	0.4	3.0	No
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	56.9	57.0	0.1	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	69.9	2.9	1.5	**Yes**
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	67.1	3.9	3.0	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	66.1	3.3	3.0	**Yes**
454	Technology Drive	Ada to Alton Parkway	57.8	59.9	2.1	5.0	No
455	Toledo Way	Bake Parkway to City Limits	65.5	65.8	0.3	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.5	64.9	0.4	3.0	No
457	Toledo Way	Alton Parkway to Parker	63.9	64.5	0.6	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	66.7	67.0	0.3	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.7	66.9	0.2	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.3	66.6	0.3	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.3	66.5	0.2	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.3	66.5	0.2	1.5	No
463	Trabuco Road	Yale Avenue to Remington	65.7	66.0	0.3	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	65.7	66.0	0.3	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	68.8	68.8	5.0	**Yes**
466	Turtle Rock Drive	Ridgeline to Willowleaf	66.9	67.5	0.6	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.0	67.4	0.4	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.7	66.8	0.1	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	63.9	64.0	0.1	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	63.8	64.0	0.2	3.0	No

471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.3	65.4	0.1	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.2	72.6	0.4	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.1	72.3	0.2	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.1	72.5	0.4	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.0	72.2	0.2	1.5	No
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.3	72.4	0.1	1.5	No
477	University Drive	Mesa to Campus Drive	73.3	74.2	0.9	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	73.3	74.2	0.9	1.5	No
479	University Drive	California Avenue to Mesa	73.3	74.1	0.8	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	69.5	70.3	0.8	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	70.4	71.3	0.9	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	69.2	70.0	0.8	1.5	No
483	University Drive	San Joaquin to Culver Drive	68.7	69.4	0.7	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	68.7	69.4	0.7	1.5	No
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	68.0	5.0	3.0	**Yes**
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	67.6	2.4	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	65.7	2.8	3.0	No
488	Valley Oak Drive	Alton Parkway to Hawkcreek	63.8	65.0	1.2	3.0	No
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	70.6	1.7	1.5	**Yes**
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	70.4	1.6	1.5	**Yes**
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	70.1	0.8	1.5	No
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	69.7	1.3	1.5	No
493	Von Karman Avenue	Main Street to Anchor	69.2	69.9	0.7	1.5	No
494	Von Karman Avenue	Anchor to McGaw Avenue	69.2	69.9	0.7	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.2	69.9	0.7	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	67.8	69.2	1.4	1.5	No
497	Von Karman Avenue	Campus Drive to Martin	67.8	69.2	1.4	1.5	No
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	69.2	1.4	1.5	No
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	70.5	1.6	1.5	**Yes**
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.6	68.9	0.3	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.2	68.5	0.3	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.2	68.4	0.2	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.0	68.1	0.1	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.0	68.1	0.1	1.5	No

Table 11

505	Walnut Avenue	Culver Drive to Franciscan Street	68.0	68.1	0.1	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.0	67.6	0.6	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.0	67.5	0.5	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	66.3	67.0	0.7	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	66.3	67.0	0.7	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	69.6	70.1	0.5	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	67.8	68.4	0.6	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.1	66.8	0.7	1.5	No
513	Warner Avenue	Santa Ynez to Culver Drive	65.1	65.6	0.5	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	64.9	65.1	0.2	3.0	No
515	West Yale Loop	Alton Parkway to Blue Lake North	63.3	64.0	0.7	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.3	63.8	0.5	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	62.7	63.6	0.9	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.7	62.9	0.2	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	61.8	62.1	0.3	3.0	No
520	West Yale Loop	Warner Avenue to Stonecreek South	61.8	62.4	0.6	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	61.7	62.4	0.7	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	61.8	62.0	0.2	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	61.8	62.2	0.4	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.2	63.6	0.4	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.3	61.6	0.3	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.5	68.6	0.1	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.2	67.4	0.2	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.7	70.9	0.2	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	66.9	67.1	0.2	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.5	67.0	0.5	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	65.8	0.8	1.5	No
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.6	65.7	0.1	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.6	65.7	0.1	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.1	65.6	0.5	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.1	65.6	0.5	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	64.8	65.3	0.5	3.0	No
537	Yale Avenue	Bryan Avenue to Monticello	64.8	65.2	0.4	3.0	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.1	64.3	0.2	3.0	No

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Table 11

539	Yale Avenue	University Drive to Royce	57.9	63.0	5.1	5.0	**Yes**
540	Yale Court	Arborwood to Portola Parkway	60.0	60.3	0.3	1.5	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria?

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Table 12:Existing and Conservative Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]			Incremental Noise Level Increase Threshold[3]	
			Existing	Conservative	Project Addition	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	70.8	70.8	5.0	**Yes**
2	Ada	Alton Parkway to Barranca PArkway	60.3	69.3	9.0	3.0	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	74.1	2.8	1.5	**Yes**
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	74.8	2.7	1.5	**Yes**
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.3	71.8	0.5	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	72.0	2.7	1.5	**Yes**
7	Alton Parkway	Jeffrey Road to Royal Oak	70.1	70.9	0.8	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	70.7	7.0	3.0	**Yes**
9	Alton Parkway	Culver Drive to West Yale Loop	70.4	70.7	0.3	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.3	70.7	0.4	1.5	No
11	Alton Parkway	Technology Drive West to Ada	70.2	72.6	2.4	1.5	**Yes**
12	Alton Parkway	Creek Road to East Yale Loop	70.1	70.6	0.5	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	70.5	2.4	1.5	**Yes**
14	Alton Parkway	Lake Road to Creek Road	70.1	70.4	0.3	1.5	No
15	Alton Parkway	Telemetry to Banting	69.0	70.4	1.4	1.5	No
16	Alton Parkway	Irvine Boulevard to Commercentre	70.3	70.8	0.5	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.0	70.4	1.4	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	71.2	2.6	1.5	**Yes**
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	73.7	1.6	1.5	**Yes**
20	Alton Parkway	Laguna Canyon Road to Jenner	69.0	70.3	1.3	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	71.2	2.1	1.5	**Yes**
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.4	70.1	0.7	1.5	No
23	Alton Parkway	Banting to Pacifica	68.4	70.0	1.6	1.5	**Yes**
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.1	70.9	0.8	1.5	No
25	Alton Parkway	Ada to Technology Drive East	69.2	70.7	1.5	1.5	**Yes**
26	Alton Parkway	Von Karman Avenue to Jamboree Road	68.7	69.7	1.0	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.8	69.9	0.1	1.5	No
28	Alton Parkway	Hughes to Morgan	69.5	69.8	0.3	1.5	No
29	Alton Parkway	Morgan to Toledo Way	68.8	69.1	0.3	1.5	No

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Table 12

30	Alton Parkway	San Marino to Culver Drive	68.8	69.2	0.4	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.0	69.0	1.0	1.5	No
32	Alton Parkway	Hospital to Laguna Canyon Road	70.7	72.0	1.3	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.1	71.8	0.7	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.1	68.8	0.7	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	68.0	68.7	0.7	1.5	No
36	Alton Parkway	Fairbanks to Foster	67.5	68.5	1.0	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.2	68.4	0.2	1.5	No
38	Alton Parkway	Pacifica to Meridian	69.7	71.7	2.0	1.5	**Yes**
39	Alton Parkway	Bertea to Fairbanks	68.1	68.3	0.2	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	68.3	1.7	1.5	**Yes**
41	Alton Parkway	Paseo Westpark to San Marino	67.9	68.3	0.4	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	66.9	67.7	0.8	1.5	No
43	Astor	Lynx to Fairbanks	57.5	67.1	9.6	5.0	**Yes**
44	Astor	Cadence to Lynx	0.0	65.9	65.9	5.0	**Yes**
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	75.4	76.7	1.3	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.7	73.0	0.3	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	74.7	75.1	0.4	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	71.9	72.1	0.2	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.5	71.7	0.2	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.4	71.6	0.2	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	68.5	69.6	1.1	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.1	64.9	0.8	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	61.9	63.4	1.5	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	57.6	60.3	2.7	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	73.3	2.8	1.5	**Yes**
56	Barranca Parkway	Banting to Pacifica	70.7	72.8	2.1	1.5	**Yes**
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	73.0	3.2	1.5	**Yes**
58	Barranca Parkway	Technology Drive West to Ada	70.4	72.7	2.3	1.5	**Yes**
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	72.6	3.3	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	71.9	72.3	0.4	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	72.2	0.5	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.6	72.1	0.5	1.5	No
63	Barranca Parkway	Ada to Alton Parkway	70.2	72.1	1.9	1.5	**Yes**
64	Barranca Parkway	Lake Road to Creek Road	71.2	71.8	0.6	1.5	No

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65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	74.7	1.4	1.5	No
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	71.6	1.9	1.5	**Yes**
67	Barranca Parkway	Lyon to East Yale Loop	71.0	71.6	0.6	1.5	No
68	Barranca Parkway	Creek Road to Lyon	70.9	71.5	0.6	1.5	No
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	71.5	72.8	1.3	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	71.1	2.6	1.5	**Yes**
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.0	72.5	0.5	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	70.8	1.7	1.5	**Yes**
73	Barranca Parkway	Jamboree Road to Construction Circle	70.1	71.2	1.1	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	69.8	71.0	1.2	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	70.5	1.7	1.5	**Yes**
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	70.4	2.1	1.5	**Yes**
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	70.4	1.6	1.5	**Yes**
78	Barranca Parkway	Pullman Street to Red Hill Avenue	72.7	73.7	1.0	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	69.4	70.6	1.2	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	69.4	70.6	1.2	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	69.3	70.6	1.3	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.2	70.2	1.0	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	56.1	57.1	1.0	5.0	No
84	Beacon	Ridge Valley to Benchmark	0.0	59.7	59.7	5.0	**Yes**
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	56.5	56.5	5.0	**Yes**
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	68.6	69.6	1.0	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.0	70.3	0.3	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	67.5	68.6	1.1	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	67.5	68.2	0.7	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.5	68.0	0.5	1.5	No
91	Bosque	Cadence to Great Park Boulevard	63.0	65.2	2.2	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	59.7	63.6	3.9	5.0	No
93	Bosque	Benchmark to Cadence	59.7	63.2	3.5	5.0	No
94	Bosque	Great Park Boulevard to Beacon	0.0	56.8	56.8	5.0	**Yes**
95	Bosque	Beacon to S 5th Street	0.0	56.2	56.2	5.0	**Yes**
96	Bryan Avenue	Jamboree Road to Market Place	68.7	69.0	0.3	1.5	No
97	Bryan Avenue	Market Place to El Camino Real	68.7	68.9	0.2	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.7	68.8	0.1	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.7	68.8	0.1	1.5	No

Table 12

100	Bryan Avenue	Eastwood to Jeffrey Road	65.8	67.1	1.3	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.8	0.5	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.3	66.7	0.4	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	65.8	66.7	0.9	1.5	No
104	Cadence	Pusan to Chinon	64.5	65.6	1.1	3.0	No
105	Cadence	Bosque to Pusan	65.7	65.3	-0.4	1.5	No
106	Cadence	Ridge Valley (O Street) to Bosque	62.6	64.0	1.4	3.0	No
107	Cadence	Chinon to Merit	62.6	62.3	-0.3	3.0	No
108	Cadence	Merit to Astor	0.0	59.4	59.4	5.0	**Yes**
109	California Avenue	University Drive to Academy Way	64.3	66.2	1.9	3.0	No
110	California Avenue	Campus Drive to Harvard Avenue	63.2	64.2	1.0	3.0	No
111	California Avenue	Theory to Bison Avenue	63.1	63.9	0.8	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	70.9	73.2	2.3	1.5	**Yes**
113	Campus Drive	University Drive to Bridge Road	70.1	71.8	1.7	1.5	**Yes**
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	71.5	2.5	1.5	**Yes**
115	Campus Drive	Stanford Court to Berkeley Avenue	70.1	71.1	1.0	1.5	No
116	Campus Drive	California Avenue to Culver Drive	68.9	70.9	2.0	1.5	**Yes**
117	Campus Drive	Berkeley Avenue to Cornell	68.9	70.0	1.1	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	67.5	69.1	1.6	1.5	**Yes**
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.5	68.7	0.2	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	68.4	1.6	1.5	**Yes**
121	Campus Drive	MacArthur Boulevard to Martin	67.5	68.2	0.7	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	66.8	67.5	0.7	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	67.9	3.4	3.0	**Yes**
124	Chinon	Irvine Boulevard to Cadence	56.6	58.8	2.2	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	55.3	56.3	1.0	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.4	74.0	0.6	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.4	73.9	0.5	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.7	73.9	0.2	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.7	73.8	0.1	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.4	73.6	0.2	1.5	No
131	Culver Drive	San Leandro to Main Street	73.2	73.3	0.1	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	72.7	73.4	0.7	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.1	74.2	0.1	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	72.9	73.2	0.3	1.5	No

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Table 12

135	Culver Drive	Main Street to Alton Parkway	72.7	73.1	0.4	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	72.7	73.0	0.3	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.6	72.9	0.3	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.6	72.8	0.2	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	71.4	72.0	0.6	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.3	72.5	0.2	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	71.9	72.5	0.6	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.1	72.4	0.3	1.5	No
143	Culver Drive	Palo Verde to Campus Drive	71.4	71.6	0.2	1.5	No
144	Culver Drive	University Drive to Sandburg Way	71.5	72.2	0.7	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	72.8	73.2	0.4	1.5	No
146	Culver Drive	Campus Drive to High School	71.6	72.1	0.5	1.5	No
147	Culver Drive	High School to Harvard Avenue	71.6	72.0	0.4	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.5	71.8	0.3	1.5	No
149	Culver Drive	Portola Parkway to Settlers	68.9	71.2	2.3	1.5	**Yes**
150	Culver Drive	Florence to Irvine Boulevard	71.3	71.7	0.4	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.0	70.5	0.5	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.0	70.4	0.4	1.5	No
153	Culver Drive	Settlers to Furrow	0.0	68.5	68.5	5.0	**Yes**
154	Culver Drive	Meadowood to Portola Parkway	68.3	69.0	0.7	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	65.5	8.9	5.0	**Yes**
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	63.6	63.6	5.0	**Yes**
157	East Yale Loop	Alton Parkway to Witherspoon	64.6	65.6	1.0	3.0	No
158	East Yale Loop	Osborn Street to Barranca Parkway	64.3	65.4	1.1	3.0	No
159	East Yale Loop	Yale Avenue to Springbrook South	62.3	65.0	2.7	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	62.3	63.6	1.3	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.3	62.8	0.5	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.3	62.4	0.1	3.0	No
163	Eastwood	Bryan Avenue to Monticello	59.5	60.8	1.3	5.0	No
164	Eastwood	Columbus to Bryan Avenue	58.5	58.8	0.3	5.0	No
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	66.9	67.1	0.2	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.2	62.4	0.2	3.0	No
167	Fairbanks	Alton Parkway to Astor	61.3	69.8	8.5	3.0	**Yes**
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	66.9	66.9	5.0	**Yes**
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	63.3	64.0	0.7	3.0	No

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Table 12

170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	63.5	6.5	5.0	**Yes**
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	59.4	62.3	2.9	5.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	56.8	59.2	2.4	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	74.6	4.1	1.5	**Yes**
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	70.3	6.3	3.0	**Yes**
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	69.0	69.0	5.0	**Yes**
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	68.4	68.4	5.0	**Yes**
177	Harvard Avenue	University Drive to Michelson Drive	71.2	72.0	0.8	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	69.5	70.4	0.9	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	69.4	70.2	0.8	1.5	No
180	Harvard Avenue	Coronado to Main Street	69.3	70.1	0.8	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.4	70.1	0.7	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.3	70.0	0.7	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.5	68.8	0.3	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.5	68.8	0.3	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.4	68.6	0.2	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	67.5	2.0	1.5	**Yes**
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	67.4	1.9	1.5	**Yes**
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.6	67.9	0.3	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.2	67.9	0.7	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	67.8	1.7	1.5	**Yes**
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	68.8	2.0	1.5	**Yes**
192	Harvard Avenue	California Avenue to Berkeley Avenue	66.1	67.4	1.3	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.1	67.3	1.2	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	66.1	67.2	1.1	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	65.9	66.7	0.8	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	58.2	0.0	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	57.5	57.5	5.0	**Yes**
198	Hubble	Irvine Center Drive to Bunsen	55.5	55.9	0.4	5.0	No
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.1	72.2	0.1	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.0	72.2	0.2	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	72.9	73.0	0.1	1.5	No
202	Irvine Boulevard	Merit to Alton	71.4	71.6	0.2	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.4	71.6	0.2	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.9	71.1	0.2	1.5	No

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205	Irvine Boulevard	Pusan Way to Chinon (B Street)	70.8	71.0	0.2	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.4	71.2	0.8	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.5	71.2	0.7	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	71.1	0.6	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.3	71.1	0.8	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.5	71.1	0.6	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.3	71.0	0.7	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.3	71.0	0.7	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.6	70.9	0.3	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	69.8	70.5	0.7	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to Jeffrey Road	70.2	70.7	0.5	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.2	70.5	0.3	1.5	No
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.1	70.6	0.5	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	69.9	70.5	0.6	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	69.9	70.4	0.5	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.0	70.2	0.2	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.5	70.0	0.5	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.0	69.6	0.6	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.4	68.6	0.2	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	72.7	1.4	1.5	No
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	72.0	2.3	1.5	**Yes**
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	70.9	72.2	1.3	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	71.9	2.2	1.5	**Yes**
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	71.7	2.2	1.5	**Yes**
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	71.6	1.9	1.5	**Yes**
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	71.6	2.0	1.5	**Yes**
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	71.6	2.2	1.5	**Yes**
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	71.5	1.8	1.5	**Yes**
233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	71.3	2.4	1.5	**Yes**
234	Irvine Center Drive	Spectrum to Pacifica	68.9	71.3	2.4	1.5	**Yes**
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	71.0	1.8	1.5	**Yes**
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	70.9	2.8	1.5	**Yes**
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	69.7	70.6	0.9	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	70.7	1.6	1.5	**Yes**
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	70.7	2.6	1.5	**Yes**

240	Irvine Center Drive	Harvard Avenue to Hearthstone	69.2	70.3	1.1	1.5	No
241	Irvine Center Drive	Research to Hubble	67.9	69.8	1.9	1.5	**Yes**
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	70.1	3.2	1.5	**Yes**
243	Irvine Center Drive	Bake Parkway to Muller	67.9	69.7	1.8	1.5	**Yes**
244	Irvine Center Drive	Discovery to Charter	67.3	70.2	2.9	1.5	**Yes**
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	69.5	1.7	1.5	**Yes**
246	Irvine Center Drive	Muller to Tesla	67.7	69.3	1.6	1.5	**Yes**
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	69.4	1.8	1.5	**Yes**
248	Irvine Center Drive	Tesla to Scientific Way	67.1	68.9	1.8	1.5	**Yes**
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	68.7	1.5	1.5	**Yes**
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	68.8	2.1	1.5	**Yes**
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	68.8	2.0	1.5	**Yes**
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	68.8	2.0	1.5	**Yes**
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	71.0	1.4	1.5	No
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.3	74.5	0.2	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.1	75.6	0.5	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.5	73.9	0.4	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.5	77.0	0.5	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.5	73.6	0.1	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	75.7	76.4	0.7	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	73.6	74.4	0.8	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.5	76.0	0.5	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.4	76.0	0.6	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.1	73.0	0.9	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.3	73.9	0.6	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.2	75.6	0.4	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	72.2	73.5	1.3	1.5	No
267	Jamboree Road	Beckman to Barranca Parkway	75.0	75.3	0.3	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	74.9	75.1	0.2	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.5	73.2	0.7	1.5	No
270	Jamboree Road	El Camino Real to West Drive	74.9	75.0	0.1	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	74.9	74.9	0.0	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.5	74.6	0.1	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	71.7	72.8	1.1	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	71.8	72.8	1.0	1.5	No

275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.0	70.7	0.7	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.0	79.2	0.2	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.1	78.3	0.2	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.8	78.0	0.2	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	70.9	71.4	0.5	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	71.8	72.3	0.5	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.4	70.9	0.5	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.3	70.9	0.6	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.2	70.7	0.5	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.4	70.9	0.5	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.3	70.7	0.4	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.4	70.8	0.4	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.1	70.5	0.4	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.4	69.6	0.2	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.4	69.6	0.2	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.0	70.4	0.4	1.5	No
291	Jeffrey Road	Grove to Trabuco Road	70.0	70.2	0.2	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.1	68.5	0.4	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	64.0	65.8	1.8	3.0	No
294	Jeffrey Road	Irvine Boulevard to Encore	64.0	65.5	1.5	3.0	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.4	64.6	0.2	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.1	64.3	0.2	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	72.6	73.3	0.7	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	69.9	2.2	1.5	**Yes**
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	69.5	4.7	3.0	**Yes**
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	67.9	1.9	1.5	**Yes**
301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	69.0	5.4	3.0	**Yes**
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	67.9	1.9	1.5	**Yes**
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	67.0	1.5	1.5	**Yes**
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	67.5	3.0	3.0	**Yes**
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	64.8	66.3	1.5	3.0	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	63.9	66.2	2.3	3.0	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	68.3	69.4	1.1	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	68.3	69.3	1.0	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	65.3	66.4	1.1	1.5	No

Table 12

310	Lake Road	Alton Parkway to Barranca Parkway	59.0	59.2	0.2	5.0	No
311	Lynx	Irvine Boulevard to Astor	0.0	53.2	53.2	5.0	**Yes**
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.0	76.7	0.7	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	75.8	76.7	0.9	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	75.7	76.6	0.9	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.7	69.9	0.2	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.7	69.8	0.1	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.4	70.5	0.1	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.3	72.2	0.9	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.3	72.1	0.8	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.0	69.5	0.5	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.0	68.3	0.3	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.5	67.1	0.6	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	68.5	69.3	0.8	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	70.9	1.5	1.5	**Yes**
325	Main Street	MacArthur Boulevard to Mercantile	69.4	70.3	0.9	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	67.7	68.4	0.7	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.2	68.5	1.3	1.5	No
328	Main Street	McDurmott to Red Hill Avenue	67.9	68.1	0.2	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.7	68.0	0.3	1.5	No
330	Main Street	Jamboree Road to Union	67.4	67.8	0.4	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.0	67.2	0.2	1.5	No
332	Main Street	Siglo to Jamboree Road	67.2	67.7	0.5	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.4	67.5	0.1	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.2	66.3	0.1	1.5	No
335	Main Street	Harvard Avenue to San Mateo	66.2	66.3	0.1	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	72.3	4.5	1.5	**Yes**
337	Marine Way	Alton Parkway to Bake Parkway	0.0	69.4	69.4	5.0	**Yes**
338	Marine Way	Lynx to Barranca Parkway	0.0	69.3	69.3	5.0	**Yes**
339	Marine Way	County Access to Treble	59.3	68.5	9.2	5.0	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	68.3	6.3	3.0	**Yes**
341	Marine Way	Skyhawk to County Access	59.3	67.4	8.1	5.0	**Yes**
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	66.8	14.1	5.0	**Yes**
343	Marine Way	Treble to Lynx	0.0	66.5	66.5	5.0	**Yes**
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	62.2	64.5	2.3	3.0	No

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Table 12

345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	62.1	64.3	2.2	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	61.0	62.4	1.4	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	57.6	59.6	2.0	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.5	59.8	0.3	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.7	55.6	0.9	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	53.5	54.7	1.2	5.0	No
351	Merit	Irvine Boulevard to Cadence	59.3	58.0	-1.3	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	66.7	68.3	1.6	1.5	**Yes**
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.3	67.2	0.9	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	66.7	68.2	1.5	1.5	**Yes**
355	Michelson Drive	Parkside to Culver Drive	66.2	67.8	1.6	1.5	**Yes**
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.3	66.9	0.6	1.5	No
357	Michelson Drive	Carlson to Prince	65.4	67.3	1.9	1.5	**Yes**
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	66.7	67.5	0.8	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.2	66.8	0.6	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	64.9	66.8	1.9	3.0	No
361	Michelson Drive	Jamboree Road to Carlson	68.0	69.6	1.6	1.5	**Yes**
362	Michelson Drive	Teller to Jamboree Road	68.7	69.6	0.9	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.6	67.1	0.5	1.5	No
364	Michelson Drive	Culver Drive to Angell	65.9	66.3	0.4	1.5	No
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	70.7	71.7	1.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	61.4	61.1	-0.3	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	66.4	67.2	0.8	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.1	66.3	0.2	1.5	No
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.1	66.3	0.2	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	65.9	66.6	0.7	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.0	65.1	0.1	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	60.8	61.8	1.0	3.0	No
373	Northwood	Yale Avenue to Savannah	62.3	62.5	0.2	3.0	No
374	Northwood	Goldrush to Yale Avenue	60.5	61.5	1.0	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	69.7	3.5	1.5	**Yes**
376	Pacifica	Gateway to Barranca Parkway	63.3	65.3	2.0	3.0	No
377	Pacifica	Alton Parkway to Gateway	61.8	64.1	2.3	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	61.7	62.7	1.0	3.0	No
379	Pacifica	Meridian to Alton Parkway	58.1	60.9	2.8	5.0	No

Table 12

380	Park Place	Christamon South to Yale Avenue	56.8	57.0	0.2	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	71.7	1.4	1.5	No
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	71.7	1.4	1.5	No
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	71.4	1.8	1.5	**Yes**
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	71.1	1.5	1.5	**Yes**
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	70.1	4.6	1.5	**Yes**
386	Portola Parkway	Gatepark to Culver Drive	69.6	70.7	1.1	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	69.6	70.7	1.1	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	69.6	70.6	1.0	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	69.6	70.5	0.9	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	69.6	70.5	0.9	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	70.2	1.6	1.5	**Yes**
392	Portola Parkway	Culver Drive to Yale Avenue	68.6	69.7	1.1	1.5	No
393	Portola Parkway	Silverado to Portola Springs	66.5	68.6	2.1	1.5	**Yes**
394	Pusan	Irvine Boulevard to Cadence	54.0	56.2	2.2	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.3	67.5	0.2	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	64.8	65.4	0.6	3.0	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.4	54.9	0.5	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	70.8	71.6	0.8	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.6	70.2	0.6	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.5	70.1	0.6	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.3	69.9	0.6	1.5	No
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.3	69.8	0.5	1.5	No
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	70.2	71.4	1.2	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	69.6	70.8	1.2	1.5	No
405	Research Drive	Hubble to Bake Parkway	65.4	69.6	4.2	1.5	**Yes**
406	Research Drive	Scientific to Lake Forest Drive	65.6	67.4	1.8	1.5	**Yes**
407	Research Drive	Bake Parkway to Muller	66.2	66.7	0.5	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	64.9	65.7	0.8	3.0	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	67.3	1.8	1.5	**Yes**
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	65.9	66.4	0.5	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	65.8	66.0	0.2	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.0	58.1	0.1	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	67.7	68.8	1.1	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	67.7	68.5	0.8	1.5	No

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Table 12

415	Rockfield Avenue	Whatney to McLaren	66.3	67.7	1.4	1.5	No
416	Rockfield Avenue	Bake Parkway to Whatney	62.5	64.3	1.8	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.5	63.1	0.6	3.0	No
418	Roosevelt	Jeffrey Road to Vision	65.2	66.6	1.4	1.5	No
419	Roosevelt	Yale Avenue to Van Buren	67.9	68.3	0.4	1.5	No
420	Roosevelt	Vision to Bay Tree	64.5	66.3	1.8	3.0	No
421	Roosevelt	Nimitz to Jeffrey Road	65.2	65.9	0.7	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	63.7	65.6	1.9	3.0	No
423	Royal Oak	Alton Parkway to Eaglecreek	63.8	64.0	0.2	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	72.2	1.5	1.5	**Yes**
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	70.6	72.0	1.4	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	73.6	74.7	1.1	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	72.7	1.5	1.5	**Yes**
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	74.6	1.9	1.5	**Yes**
429	Sand Canyon Avenue	Trabuco Road to Towngate	70.0	71.0	1.0	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	70.9	1.7	1.5	**Yes**
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	72.7	73.9	1.2	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	70.8	1.5	1.5	**Yes**
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.3	73.5	0.2	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	72.4	73.6	1.2	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.2	73.5	0.3	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	69.3	70.3	1.0	1.5	No
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	69.2	70.2	1.0	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	69.2	1.2	1.5	No
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.6	72.8	0.2	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	69.7	70.8	1.1	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.3	71.8	0.5	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.6	55.0	0.4	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.6	69.3	0.7	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.1	67.7	0.6	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	59.6	6.8	5.0	**Yes**
446	Southwood	Yale Avenue to Colt	60.5	60.6	0.1	3.0	No
447	Southwood	Challenger to Yale Avenue	59.9	60.4	0.5	5.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.4	62.0	0.6	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.0	62.5	0.5	3.0	No

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450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	56.9	57.7	0.8	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	70.8	3.8	1.5	**Yes**
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	69.6	6.4	3.0	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	69.4	6.6	3.0	**Yes**
454	Technology Drive	Ada to Alton Parkway	57.8	63.7	5.9	5.0	**Yes**
455	Toledo Way	Bake Parkway to City Limits	65.5	65.6	0.1	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.5	64.7	0.2	3.0	No
457	Toledo Way	Alton Parkway to Parker	63.9	64.5	0.6	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	66.7	67.2	0.5	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.7	67.1	0.4	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.3	66.8	0.5	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.3	66.8	0.5	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.3	66.7	0.4	1.5	No
463	Trabuco Road	Yale Avenue to Remington	65.7	66.4	0.7	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	65.7	66.1	0.4	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	68.7	68.7	5.0	**Yes**
466	Turtle Rock Drive	Ridgeline to Willowleaf	66.9	67.9	1.0	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.0	67.8	0.8	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.7	67.1	0.4	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	63.9	64.0	0.1	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	63.8	64.1	0.3	3.0	No
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.3	65.5	0.2	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.2	73.0	0.8	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.1	72.6	0.5	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.1	72.9	0.8	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.0	72.4	0.4	1.5	No
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.3	72.7	0.4	1.5	No
477	University Drive	Mesa to Campus Drive	73.3	74.5	1.2	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	73.3	74.4	1.1	1.5	No
479	University Drive	California Avenue to Mesa	73.3	74.4	1.1	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	69.5	70.7	1.2	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	70.4	71.6	1.2	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	69.2	70.2	1.0	1.5	No
483	University Drive	San Joaquin to Culver Drive	68.7	69.8	1.1	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	68.7	69.8	1.1	1.5	No

485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	68.1	5.1	3.0	**Yes**
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	69.6	4.4	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	67.1	4.2	3.0	**Yes**
488	Valley Oak Drive	Alton Parkway to Hawkcreek	63.8	64.9	1.1	3.0	No
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	71.0	2.1	1.5	**Yes**
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	70.9	2.1	1.5	**Yes**
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	70.8	1.5	1.5	**Yes**
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	70.4	2.0	1.5	**Yes**
493	Von Karman Avenue	Main Street to Anchor	69.2	70.7	1.5	1.5	**Yes**
494	Von Karman Avenue	Anchor to McGaw Avenue	69.2	70.5	1.3	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.2	70.3	1.1	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	67.8	69.6	1.8	1.5	**Yes**
497	Von Karman Avenue	Campus Drive to Martin	67.8	69.5	1.7	1.5	**Yes**
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	69.5	1.7	1.5	**Yes**
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	70.9	2.0	1.5	**Yes**
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.6	69.1	0.5	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.2	68.8	0.6	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.2	68.8	0.6	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.0	68.5	0.5	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.0	68.5	0.5	1.5	No
505	Walnut Avenue	Culver Drive to Franciscan Street	68.0	68.4	0.4	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.0	68.0	1.0	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.0	67.9	0.9	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	66.3	67.3	1.0	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	66.3	67.2	0.9	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	69.6	70.2	0.6	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	67.8	68.6	0.8	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.1	67.1	1.0	1.5	No
513	Warner Avenue	Santa Ynez to Culver Drive	65.1	66.2	1.1	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	64.9	65.8	0.9	3.0	No
515	West Yale Loop	Alton Parkway to Blue Lake North	63.3	64.0	0.7	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.3	63.9	0.6	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	62.7	64.0	1.3	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.7	62.8	0.1	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	61.8	63.2	1.4	3.0	No

Table 12

520	West Yale Loop	Warner Avenue to Stonecreek South	61.8	62.7	0.9	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	61.7	62.4	0.7	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	61.8	62.6	0.8	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	61.8	62.4	0.6	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.2	63.5	0.3	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.3	61.6	0.3	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.5	68.6	0.1	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.2	67.3	0.1	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.7	71.1	0.4	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	66.9	67.1	0.2	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.5	66.9	0.4	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	66.5	1.5	1.5	**Yes**
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.6	65.7	0.1	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.6	65.7	0.1	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.1	65.6	0.5	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.1	65.4	0.3	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	64.8	65.1	0.3	3.0	No
537	Yale Avenue	Bryan Avenue to Monticello	64.8	65.0	0.2	3.0	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.1	64.2	0.1	3.0	No
539	Yale Avenue	University Drive to Royce	57.9	63.6	5.7	5.0	**Yes**
540	Yale Court	Arborwood to Portola Parkway	60.0	60.4	0.4	1.5	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria?

Table 13:Existing and Preferred Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]			Incremental Noise Level Increase Threshold[3]	
			Existing	Preferred	Project Addition	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	70.8	70.8	5.0	**Yes**
2	Ada	Alton Parkway to Barranca PArkway	60.3	69.2	8.9	3.0	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	73.9	2.6	1.5	**Yes**
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	74.5	2.4	1.5	**Yes**
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.3	71.8	0.5	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	71.7	2.4	1.5	**Yes**
7	Alton Parkway	Jeffrey Road to Royal Oak	70.1	70.7	0.6	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	70.6	6.9	3.0	**Yes**
9	Alton Parkway	Culver Drive to West Yale Loop	70.4	70.6	0.2	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.3	70.6	0.3	1.5	No
11	Alton Parkway	Technology Drive West to Ada	70.2	72.4	2.2	1.5	**Yes**
12	Alton Parkway	Creek Road to East Yale Loop	70.1	70.5	0.4	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	70.4	2.3	1.5	**Yes**
14	Alton Parkway	Lake Road to Creek Road	70.1	70.3	0.2	1.5	No
15	Alton Parkway	Telemetry to Banting	69.0	70.3	1.3	1.5	No
16	Alton Parkway	Irvine Boulevard to Commercentre	70.3	70.8	0.5	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.0	70.3	1.3	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	71.0	2.4	1.5	**Yes**
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	73.7	1.6	1.5	**Yes**
20	Alton Parkway	Laguna Canyon Road to Jenner	69.0	70.2	1.2	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	70.8	1.7	1.5	**Yes**
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.4	70.0	0.6	1.5	No
23	Alton Parkway	Banting to Pacifica	68.4	69.9	1.5	1.5	**Yes**
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.1	70.3	0.2	1.5	No
25	Alton Parkway	Ada to Technology Drive East	69.2	70.3	1.1	1.5	No
26	Alton Parkway	Von Karman Avenue to Jamboree Road	68.7	69.6	0.9	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.8	70.0	0.2	1.5	No
28	Alton Parkway	Hughes to Morgan	69.5	69.8	0.3	1.5	No
29	Alton Parkway	Morgan to Toledo Way	68.8	69.0	0.2	1.5	No

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Table 13

30	Alton Parkway	San Marino to Culver Drive	68.8	69.1	0.3	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.0	68.9	0.9	1.5	No
32	Alton Parkway	Hospital to Laguna Canyon Road	70.7	71.9	1.2	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.1	71.8	0.7	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.1	68.7	0.6	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	68.0	68.7	0.7	1.5	No
36	Alton Parkway	Fairbanks to Foster	67.5	68.4	0.9	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.2	68.4	0.2	1.5	No
38	Alton Parkway	Pacifica to Meridian	69.7	71.5	1.8	1.5	**Yes**
39	Alton Parkway	Bertea to Fairbanks	68.1	68.3	0.2	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	68.2	1.6	1.5	**Yes**
41	Alton Parkway	Paseo Westpark to San Marino	67.9	68.1	0.2	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	66.9	67.5	0.6	1.5	No
43	Astor	Lynx to Fairbanks	57.5	67.0	9.5	5.0	**Yes**
44	Astor	Cadence to Lynx	0.0	65.8	65.8	5.0	**Yes**
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	75.4	76.6	1.2	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.7	72.9	0.2	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	74.7	75.0	0.3	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	71.9	72.0	0.1	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.5	71.6	0.1	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.4	71.6	0.2	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	68.5	69.5	1.0	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.1	64.8	0.7	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	61.9	63.4	1.5	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	57.6	60.2	2.6	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	73.1	2.6	1.5	**Yes**
56	Barranca Parkway	Banting to Pacifica	70.7	72.7	2.0	1.5	**Yes**
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	72.6	2.8	1.5	**Yes**
58	Barranca Parkway	Technology Drive West to Ada	70.4	72.6	2.2	1.5	**Yes**
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	72.3	3.0	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	71.9	72.2	0.3	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	72.1	0.4	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.6	72.0	0.4	1.5	No
63	Barranca Parkway	Ada to Alton Parkway	70.2	72.0	1.8	1.5	**Yes**
64	Barranca Parkway	Lake Road to Creek Road	71.2	71.7	0.5	1.5	No

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Table 13

65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	74.7	1.4	1.5	No
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	71.6	1.9	1.5	**Yes**
67	Barranca Parkway	Lyon to East Yale Loop	71.0	71.5	0.5	1.5	No
68	Barranca Parkway	Creek Road to Lyon	70.9	71.4	0.5	1.5	No
69	Barranca Parkway	Von Karman Avenue to Jamboree Road	71.5	72.7	1.2	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	70.8	2.3	1.5	**Yes**
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.0	72.3	0.3	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	70.6	1.5	1.5	**Yes**
73	Barranca Parkway	Jamboree Road to Construction Circle	70.1	71.0	0.9	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	69.8	70.9	1.1	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	70.2	1.4	1.5	No
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	70.2	1.9	1.5	**Yes**
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	70.1	1.3	1.5	No
78	Barranca Parkway	Pullman Street to Red Hill Avenue	72.7	73.6	0.9	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	69.4	70.5	1.1	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	69.4	70.5	1.1	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	69.3	70.4	1.1	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.2	70.1	0.9	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	56.1	57.2	1.1	5.0	No
84	Beacon	Ridge Valley to Benchmark	0.0	59.6	59.6	5.0	**Yes**
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	56.5	56.5	5.0	**Yes**
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	68.6	69.6	1.0	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.0	70.3	0.3	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	67.5	68.6	1.1	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	67.5	68.2	0.7	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.5	68.0	0.5	1.5	No
91	Bosque	Cadence to Great Park Boulevard	63.0	65.2	2.2	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	59.7	63.5	3.8	5.0	No
93	Bosque	Benchmark to Cadence	59.7	63.1	3.4	5.0	No
94	Bosque	Great Park Boulevard to Beacon	0.0	56.7	56.7	5.0	**Yes**
95	Bosque	Beacon to S 5th Street	0.0	56.1	56.1	5.0	**Yes**
96	Bryan Avenue	Jamboree Road to Market Place	68.7	68.9	0.2	1.5	No
97	Bryan Avenue	Market Place to El Camino Real	68.7	68.9	0.2	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.7	68.9	0.2	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.7	68.8	0.1	1.5	No

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Table 13

100	Bryan Avenue	Eastwood to Jeffrey Road	65.8	66.9	1.1	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.6	0.3	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.3	66.6	0.3	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	65.8	66.4	0.6	1.5	No
104	Cadence	Pusan to Chinon	64.5	65.6	1.1	3.0	No
105	Cadence	Bosque to Pusan	65.7	65.3	-0.4	1.5	No
106	Cadence	Ridge Valley (O Street) to Bosque	62.6	63.9	1.3	3.0	No
107	Cadence	Chinon to Merit	62.6	62.2	-0.4	3.0	No
108	Cadence	Merit to Astor	0.0	59.4	59.4	5.0	**Yes**
109	California Avenue	University Drive to Academy Way	64.3	66.2	1.9	3.0	No
110	California Avenue	Campus Drive to Harvard Avenue	63.2	64.2	1.0	3.0	No
111	California Avenue	Theory to Bison Avenue	63.1	63.9	0.8	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	70.9	73.2	2.3	1.5	**Yes**
113	Campus Drive	University Drive to Bridge Road	70.1	71.8	1.7	1.5	**Yes**
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	71.5	2.5	1.5	**Yes**
115	Campus Drive	Stanford Court to Berkeley Avenue	70.1	71.1	1.0	1.5	No
116	Campus Drive	California Avenue to Culver Drive	68.9	70.9	2.0	1.5	**Yes**
117	Campus Drive	Berkeley Avenue to Cornell	68.9	70.0	1.1	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	67.5	69.0	1.5	1.5	**Yes**
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.5	68.7	0.2	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	68.3	1.5	1.5	**Yes**
121	Campus Drive	MacArthur Boulevard to Martin	67.5	68.2	0.7	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	66.8	67.5	0.7	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	67.9	3.4	3.0	**Yes**
124	Chinon	Irvine Boulevard to Cadence	56.6	59.0	2.4	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	55.3	56.1	0.8	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.4	73.9	0.5	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.4	73.8	0.4	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.7	73.9	0.2	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.7	73.9	0.2	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.4	73.6	0.2	1.5	No
131	Culver Drive	San Leandro to Main Street	73.2	73.3	0.1	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	72.7	73.3	0.6	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.1	74.3	0.2	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	72.9	73.2	0.3	1.5	No

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Table 13

135	Culver Drive	Main Street to Alton Parkway	72.7	73.1	0.4	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	72.7	73.0	0.3	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.6	72.9	0.3	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.6	72.8	0.2	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	71.4	72.0	0.6	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.3	72.5	0.2	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	71.9	72.5	0.6	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.1	72.4	0.3	1.5	No
143	Culver Drive	Palo Verde to Campus Drive	71.4	71.6	0.2	1.5	No
144	Culver Drive	University Drive to Sandburg Way	71.5	72.2	0.7	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	72.8	73.2	0.4	1.5	No
146	Culver Drive	Campus Drive to High School	71.6	72.1	0.5	1.5	No
147	Culver Drive	High School to Harvard Avenue	71.6	72.0	0.4	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.5	71.8	0.3	1.5	No
149	Culver Drive	Portola Parkway to Settlers	68.9	71.1	2.2	1.5	**Yes**
150	Culver Drive	Florence to Irvine Boulevard	71.3	71.7	0.4	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.0	70.5	0.5	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.0	70.4	0.4	1.5	No
153	Culver Drive	Settlers to Furrow	0.0	68.4	68.4	5.0	**Yes**
154	Culver Drive	Meadowood to Portola Parkway	68.3	69.0	0.7	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	64.0	7.4	5.0	**Yes**
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	61.2	61.2	5.0	**Yes**
157	East Yale Loop	Alton Parkway to Witherspoon	64.6	65.5	0.9	3.0	No
158	East Yale Loop	Osborn Street to Barranca Parkway	64.3	65.3	1.0	3.0	No
159	East Yale Loop	Yale Avenue to Springbrook South	62.3	64.8	2.5	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	62.3	63.5	1.2	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.3	62.7	0.4	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.3	62.4	0.1	3.0	No
163	Eastwood	Bryan Avenue to Monticello	59.5	60.8	1.3	5.0	No
164	Eastwood	Columbus to Bryan Avenue	58.5	58.7	0.2	5.0	No
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	66.9	67.1	0.2	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.2	62.4	0.2	3.0	No
167	Fairbanks	Alton Parkway to Astor	61.3	69.7	8.4	3.0	**Yes**
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	66.9	66.9	5.0	**Yes**
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	63.3	64.1	0.8	3.0	No

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Table 13

170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	63.3	6.3	5.0	**Yes**
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	59.4	62.1	2.7	5.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	56.8	59.1	2.3	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	74.4	3.9	1.5	**Yes**
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	70.2	6.2	3.0	**Yes**
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	68.8	68.8	5.0	**Yes**
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	68.3	68.3	5.0	**Yes**
177	Harvard Avenue	University Drive to Michelson Drive	71.2	72.0	0.8	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	69.5	70.4	0.9	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	69.4	70.1	0.7	1.5	No
180	Harvard Avenue	Coronado to Main Street	69.3	70.1	0.8	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.4	70.0	0.6	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.3	70.0	0.7	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.5	68.8	0.3	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.5	68.8	0.3	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.4	68.6	0.2	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	67.4	1.9	1.5	**Yes**
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	67.3	1.8	1.5	**Yes**
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.6	67.8	0.2	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.2	67.8	0.6	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	67.8	1.7	1.5	**Yes**
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	68.7	1.9	1.5	**Yes**
192	Harvard Avenue	California Avenue to Berkeley Avenue	66.1	67.2	1.1	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.1	67.2	1.1	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	66.1	67.1	1.0	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	65.9	66.8	0.9	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	58.2	0.0	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	57.5	57.5	5.0	**Yes**
198	Hubble	Irvine Center Drive to Bunsen	55.5	55.9	0.4	5.0	No
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.1	72.3	0.2	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.0	72.2	0.2	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	72.9	73.1	0.2	1.5	No
202	Irvine Boulevard	Merit to Alton	71.4	71.6	0.2	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.4	71.6	0.2	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.9	71.2	0.3	1.5	No

Table 13

205	Irvine Boulevard	Pusan Way to Chinon (B Street)	70.8	71.0	0.2	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.4	71.1	0.7	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.5	71.0	0.5	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	70.9	0.4	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.3	71.0	0.7	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.5	70.9	0.4	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.3	70.9	0.6	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.3	70.9	0.6	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.6	70.8	0.2	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	69.8	70.6	0.8	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/The Groves to Jeffrey Road	70.2	70.6	0.4	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.2	70.5	0.3	1.5	No
217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.1	70.5	0.4	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	69.9	70.3	0.4	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	69.9	70.3	0.4	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.0	70.2	0.2	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.5	69.9	0.4	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.0	69.5	0.5	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.4	68.6	0.2	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	72.6	1.3	1.5	No
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	71.8	2.1	1.5	**Yes**
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	70.9	72.1	1.2	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	71.7	2.0	1.5	**Yes**
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	71.5	2.0	1.5	**Yes**
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	71.4	1.7	1.5	**Yes**
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	71.4	1.8	1.5	**Yes**
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	71.4	2.0	1.5	**Yes**
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	71.3	1.6	1.5	**Yes**
233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	71.0	2.1	1.5	**Yes**
234	Irvine Center Drive	Spectrum to Pacifica	68.9	71.0	2.1	1.5	**Yes**
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	70.9	1.7	1.5	**Yes**
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	70.6	2.5	1.5	**Yes**
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	69.7	70.5	0.8	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	70.5	1.4	1.5	No
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	70.5	2.4	1.5	**Yes**

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240	Irvine Center Drive	Harvard Avenue to Hearthstone	69.2	70.2	1.0	1.5	No
241	Irvine Center Drive	Research to Hubble	67.9	69.7	1.8	1.5	**Yes**
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	69.8	2.9	1.5	**Yes**
243	Irvine Center Drive	Bake Parkway to Muller	67.9	69.7	1.8	1.5	**Yes**
244	Irvine Center Drive	Discovery to Charter	67.3	69.8	2.5	1.5	**Yes**
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	69.5	1.7	1.5	**Yes**
246	Irvine Center Drive	Muller to Tesla	67.7	69.3	1.6	1.5	**Yes**
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	69.2	1.6	1.5	**Yes**
248	Irvine Center Drive	Tesla to Scientific Way	67.1	68.9	1.8	1.5	**Yes**
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	68.7	1.5	1.5	**Yes**
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	68.6	1.9	1.5	**Yes**
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	68.6	1.8	1.5	**Yes**
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	68.5	1.7	1.5	**Yes**
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	70.9	1.3	1.5	No
254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.3	74.5	0.2	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.1	75.6	0.5	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.5	73.9	0.4	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.5	77.0	0.5	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.5	73.6	0.1	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	75.7	76.3	0.6	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	73.6	74.3	0.7	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.5	76.0	0.5	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.4	75.9	0.5	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.1	72.9	0.8	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.3	73.8	0.5	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.2	75.5	0.3	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	72.2	73.4	1.2	1.5	No
267	Jamboree Road	Beckman to Barranca Parkway	75.0	75.2	0.2	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	74.9	75.1	0.2	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.5	73.1	0.6	1.5	No
270	Jamboree Road	El Camino Real to West Drive	74.9	75.0	0.1	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	74.9	75.0	0.1	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.5	74.7	0.2	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	71.7	72.7	1.0	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	71.8	72.6	0.8	1.5	No

Table 13

275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.0	70.7	0.7	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.0	79.1	0.1	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.1	78.3	0.2	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.8	78.0	0.2	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	70.9	71.3	0.4	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	71.8	72.2	0.4	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.4	70.9	0.5	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.3	70.8	0.5	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.2	70.7	0.5	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.4	70.7	0.3	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.3	70.6	0.3	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.4	70.6	0.2	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.1	70.4	0.3	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.4	69.6	0.2	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.4	69.6	0.2	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.0	70.4	0.4	1.5	No
291	Jeffrey Road	Grove to Trabuco Road	70.0	70.2	0.2	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.1	68.5	0.4	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	64.0	65.8	1.8	3.0	No
294	Jeffrey Road	Irvine Boulevard to Encore	64.0	65.5	1.5	3.0	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.4	64.6	0.2	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.1	64.3	0.2	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	72.6	73.3	0.7	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	69.9	2.2	1.5	**Yes**
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	69.1	4.3	3.0	**Yes**
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	67.9	1.9	1.5	**Yes**
301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	67.5	3.9	3.0	**Yes**
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	67.9	1.9	1.5	**Yes**
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	66.9	1.4	1.5	No
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	66.4	1.9	3.0	No
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	64.8	66.1	1.3	3.0	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	63.9	65.6	1.7	3.0	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	68.3	69.3	1.0	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	68.3	69.3	1.0	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	65.3	66.3	1.0	1.5	No

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Table 13

310	Lake Road	Alton Parkway to Barranca Parkway	59.0	59.2	0.2	5.0	No
311	Lynx	Irvine Boulevard to Astor	0.0	53.2	53.2	5.0	**Yes**
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.0	76.7	0.7	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	75.8	76.6	0.8	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	75.7	76.6	0.9	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.7	69.9	0.2	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.7	69.9	0.2	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.4	70.5	0.1	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.3	72.1	0.8	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.3	72.1	0.8	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.0	69.5	0.5	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.0	68.3	0.3	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.5	67.0	0.5	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	68.5	69.3	0.8	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	70.7	1.3	1.5	No
325	Main Street	MacArthur Boulevard to Mercantile	69.4	70.2	0.8	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	67.7	68.4	0.7	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.2	68.3	1.1	1.5	No
328	Main Street	McDurmott to Red Hill Avenue	67.9	68.1	0.2	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.7	68.0	0.3	1.5	No
330	Main Street	Jamboree Road to Union	67.4	67.8	0.4	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.0	67.1	0.1	1.5	No
332	Main Street	Siglo to Jamboree Road	67.2	67.7	0.5	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.4	67.5	0.1	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.2	66.4	0.2	1.5	No
335	Main Street	Harvard Avenue to San Mateo	66.2	66.4	0.2	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	72.3	4.5	1.5	**Yes**
337	Marine Way	Alton Parkway to Bake Parkway	0.0	69.3	69.3	5.0	**Yes**
338	Marine Way	Lynx to Barranca Parkway	0.0	69.3	69.3	5.0	**Yes**
339	Marine Way	County Access to Treble	59.3	68.4	9.1	5.0	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	68.2	6.2	3.0	**Yes**
341	Marine Way	Skyhawk to County Access	59.3	67.1	7.8	5.0	**Yes**
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	66.8	14.1	5.0	**Yes**
343	Marine Way	Treble to Lynx	0.0	66.4	66.4	5.0	**Yes**
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	62.2	64.3	2.1	3.0	No

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Table 13

345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	62.1	64.1	2.0	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	61.0	62.4	1.4	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	57.6	59.3	1.7	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.5	59.8	0.3	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.7	55.3	0.6	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	53.5	54.6	1.1	5.0	No
351	Merit	Irvine Boulevard to Cadence	59.3	57.9	-1.4	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	66.7	68.3	1.6	1.5	**Yes**
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.3	67.1	0.8	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	66.7	68.0	1.3	1.5	No
355	Michelson Drive	Parkside to Culver Drive	66.2	67.8	1.6	1.5	**Yes**
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.3	66.8	0.5	1.5	No
357	Michelson Drive	Carlson to Prince	65.4	67.3	1.9	1.5	**Yes**
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	66.7	67.3	0.6	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.2	66.8	0.6	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	64.9	66.7	1.8	3.0	No
361	Michelson Drive	Jamboree Road to Carlson	68.0	69.6	1.6	1.5	**Yes**
362	Michelson Drive	Teller to Jamboree Road	68.7	69.6	0.9	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.6	66.9	0.3	1.5	No
364	Michelson Drive	Culver Drive to Angell	65.9	66.2	0.3	1.5	No
365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	70.7	71.7	1.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	61.4	61.1	-0.3	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	66.4	67.1	0.7	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.1	66.3	0.2	1.5	No
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.1	66.3	0.2	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	65.9	66.6	0.7	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.0	65.1	0.1	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	60.8	61.9	1.1	3.0	No
373	Northwood	Yale Avenue to Savannah	62.3	62.5	0.2	3.0	No
374	Northwood	Goldrush to Yale Avenue	60.5	61.5	1.0	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	69.2	3.0	1.5	**Yes**
376	Pacifica	Gateway to Barranca Parkway	63.3	65.2	1.9	3.0	No
377	Pacifica	Alton Parkway to Gateway	61.8	64.0	2.2	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	61.7	62.7	1.0	3.0	No
379	Pacifica	Meridian to Alton Parkway	58.1	60.8	2.7	5.0	No

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Table 13

380	Park Place	Christamon South to Yale Avenue	56.8	57.0	0.2	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	71.5	1.2	1.5	No
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	71.5	1.2	1.5	No
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	71.4	1.8	1.5	**Yes**
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	71.0	1.4	1.5	No
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	70.1	4.6	1.5	**Yes**
386	Portola Parkway	Gatepark to Culver Drive	69.6	70.6	1.0	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	69.6	70.5	0.9	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	69.6	70.4	0.8	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	69.6	70.4	0.8	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	69.6	70.3	0.7	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	70.1	1.5	1.5	**Yes**
392	Portola Parkway	Culver Drive to Yale Avenue	68.6	69.6	1.0	1.5	No
393	Portola Parkway	Silverado to Portola Springs	66.5	68.5	2.0	1.5	**Yes**
394	Pusan	Irvine Boulevard to Cadence	54.0	56.2	2.2	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.3	67.4	0.1	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	64.8	65.5	0.7	3.0	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.4	54.8	0.4	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	70.8	71.5	0.7	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.6	70.1	0.5	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.5	70.0	0.5	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.3	69.9	0.6	1.5	No
402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.3	69.8	0.5	1.5	No
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	70.2	71.3	1.1	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	69.6	70.6	1.0	1.5	No
405	Research Drive	Hubble to Bake Parkway	65.4	69.5	4.1	1.5	**Yes**
406	Research Drive	Scientific to Lake Forest Drive	65.6	67.4	1.8	1.5	**Yes**
407	Research Drive	Bake Parkway to Muller	66.2	66.6	0.4	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	64.9	65.6	0.7	3.0	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	67.3	1.8	1.5	**Yes**
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	65.9	66.4	0.5	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	65.8	66.0	0.2	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.0	58.1	0.1	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	67.7	68.7	1.0	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	67.7	68.4	0.7	1.5	No

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Table 13

415	Rockfield Avenue	Whatney to McLaren	66.3	67.6	1.3	1.5	No
416	Rockfield Avenue	Bake Parkway to Whatney	62.5	64.1	1.6	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.5	63.1	0.6	3.0	No
418	Roosevelt	Jeffrey Road to Vision	65.2	66.5	1.3	1.5	No
419	Roosevelt	Yale Avenue to Van Buren	67.9	68.2	0.3	1.5	No
420	Roosevelt	Vision to Bay Tree	64.5	66.2	1.7	3.0	No
421	Roosevelt	Nimitz to Jeffrey Road	65.2	65.9	0.7	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	63.7	65.6	1.9	3.0	No
423	Royal Oak	Alton Parkway to Eaglecreek	63.8	64.0	0.2	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	72.1	1.4	1.5	No
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	70.6	71.9	1.3	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	73.6	74.6	1.0	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	72.7	1.5	1.5	**Yes**
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	74.6	1.9	1.5	**Yes**
429	Sand Canyon Avenue	Trabuco Road to Towngate	70.0	71.1	1.1	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	70.8	1.6	1.5	**Yes**
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	72.7	73.8	1.1	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	70.6	1.3	1.5	No
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.3	73.5	0.2	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	72.4	73.5	1.1	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.2	73.5	0.3	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	69.3	70.4	1.1	1.5	No
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	69.2	70.2	1.0	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	69.2	1.2	1.5	No
439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.6	72.8	0.2	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	69.7	70.6	0.9	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.3	71.7	0.4	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.6	55.0	0.4	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.6	69.2	0.6	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.1	67.5	0.4	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	59.6	6.8	5.0	**Yes**
446	Southwood	Yale Avenue to Colt	60.5	60.5	0.0	3.0	No
447	Southwood	Challenger to Yale Avenue	59.9	60.2	0.3	5.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.4	61.9	0.5	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.0	62.4	0.4	3.0	No

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Table 13

450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	56.9	57.6	0.7	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	70.6	3.6	1.5	**Yes**
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	69.2	6.0	3.0	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	69.1	6.3	3.0	**Yes**
454	Technology Drive	Ada to Alton Parkway	57.8	63.0	5.2	5.0	**Yes**
455	Toledo Way	Bake Parkway to City Limits	65.5	65.7	0.2	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.5	64.7	0.2	3.0	No
457	Toledo Way	Alton Parkway to Parker	63.9	64.3	0.4	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	66.7	67.1	0.4	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.7	66.9	0.2	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.3	66.7	0.4	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.3	66.6	0.3	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.3	66.5	0.2	1.5	No
463	Trabuco Road	Yale Avenue to Remington	65.7	66.2	0.5	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	65.7	66.0	0.3	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	68.8	68.8	5.0	**Yes**
466	Turtle Rock Drive	Ridgeline to Willowleaf	66.9	67.8	0.9	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.0	67.7	0.7	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.7	67.0	0.3	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	63.9	64.0	0.1	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	63.8	64.1	0.3	3.0	No
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.3	65.4	0.1	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.2	72.9	0.7	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.1	72.5	0.4	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.1	72.8	0.7	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.0	72.3	0.3	1.5	No
476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.3	72.7	0.4	1.5	No
477	University Drive	Mesa to Campus Drive	73.3	74.5	1.2	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	73.3	74.4	1.1	1.5	No
479	University Drive	California Avenue to Mesa	73.3	74.3	1.0	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	69.5	70.6	1.1	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	70.4	71.5	1.1	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	69.2	70.1	0.9	1.5	No
483	University Drive	San Joaquin to Culver Drive	68.7	69.7	1.0	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	68.7	69.7	1.0	1.5	No

485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	68.0	5.0	3.0	**Yes**
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	69.0	3.8	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	66.7	3.8	3.0	**Yes**
488	Valley Oak Drive	Alton Parkway to Hawkcreek	63.8	64.8	1.0	3.0	No
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	70.9	2.0	1.5	**Yes**
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	70.7	1.9	1.5	**Yes**
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	70.7	1.4	1.5	No
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	70.3	1.9	1.5	**Yes**
493	Von Karman Avenue	Main Street to Anchor	69.2	70.6	1.4	1.5	No
494	Von Karman Avenue	Anchor to McGaw Avenue	69.2	70.4	1.2	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.2	70.2	1.0	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	67.8	69.5	1.7	1.5	**Yes**
497	Von Karman Avenue	Campus Drive to Martin	67.8	69.5	1.7	1.5	**Yes**
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	69.5	1.7	1.5	**Yes**
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	70.9	2.0	1.5	**Yes**
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.6	69.1	0.5	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.2	68.7	0.5	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.2	68.7	0.5	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.0	68.4	0.4	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.0	68.4	0.4	1.5	No
505	Walnut Avenue	Culver Drive to Franciscan Street	68.0	68.3	0.3	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.0	67.9	0.9	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.0	67.8	0.8	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	66.3	67.1	0.8	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	66.3	67.1	0.8	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	69.6	70.2	0.6	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	67.8	68.6	0.8	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.1	67.0	0.9	1.5	No
513	Warner Avenue	Santa Ynez to Culver Drive	65.1	66.0	0.9	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	64.9	65.7	0.8	3.0	No
515	West Yale Loop	Alton Parkway to Blue Lake North	63.3	64.0	0.7	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.3	63.8	0.5	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	62.7	63.9	1.2	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.7	62.9	0.2	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	61.8	62.9	1.1	3.0	No

Table 13

520	West Yale Loop	Warner Avenue to Stonecreek South	61.8	62.6	0.8	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	61.7	62.4	0.7	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	61.8	62.4	0.6	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	61.8	62.3	0.5	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.2	63.6	0.4	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.3	61.5	0.2	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.5	68.6	0.1	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.2	67.3	0.1	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.7	71.0	0.3	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	66.9	67.0	0.1	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.5	66.9	0.4	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	66.3	1.3	1.5	No
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.6	65.7	0.1	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.6	65.7	0.1	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.1	65.6	0.5	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.1	65.4	0.3	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	64.8	65.1	0.3	3.0	No
537	Yale Avenue	Bryan Avenue to Monticello	64.8	65.0	0.2	3.0	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.1	64.3	0.2	3.0	No
539	Yale Avenue	University Drive to Royce	57.9	63.4	5.5	5.0	**Yes**
540	Yale Court	Arborwood to Portola Parkway	60.0	60.3	0.3	1.5	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria?

Table 13:Existing and Cumulative Conservative Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]				Incremental Noise Level Increase Threshold[3]	
			Existing	Conservative	Cumulative Conservative	Cumulative Increase	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	70.8	70.8	70.8	5.0	**Yes**
2	Ada	Alton Parkway to Barranca PArkway	60.3	69.3	69.3	9.0	3.0	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	74.1	74.1	2.8	1.5	**Yes**
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	74.8	74.8	2.7	1.5	**Yes**
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.3	71.8	71.8	0.5	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	72.0	72.0	2.7	1.5	**Yes**
7	Alton Parkway	Jeffrey Road to Royal Oak	70.1	70.9	70.9	0.8	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	70.7	70.7	7.0	3.0	**Yes**
9	Alton Parkway	Culver Drive to West Yale Loop	70.4	70.7	70.7	0.3	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.3	70.7	70.7	0.4	1.5	No
11	Alton Parkway	Technology Drive West to Ada	70.2	72.6	72.6	2.4	1.5	**Yes**
12	Alton Parkway	Creek Road to East Yale Loop	70.1	70.6	70.7	0.6	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	70.5	70.6	2.5	1.5	**Yes**
14	Alton Parkway	Lake Road to Creek Road	70.1	70.4	70.4	0.3	1.5	No
15	Alton Parkway	Telemetry to Banting	69.0	70.4	70.5	1.5	1.5	**Yes**
16	Alton Parkway	Irvine Boulevard to Commercentre	70.3	70.8	70.8	0.5	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.0	70.4	70.4	1.4	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	71.2	71.3	2.7	1.5	**Yes**
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	73.7	73.7	1.6	1.5	**Yes**
20	Alton Parkway	Laguna Canyon Road to Jenner	69.0	70.3	70.3	1.3	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	71.2	71.2	2.1	1.5	**Yes**
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.4	70.1	70.1	0.7	1.5	No
23	Alton Parkway	Banting to Pacifica	68.4	70.0	70.1	1.7	1.5	**Yes**
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.1	70.9	71.0	0.9	1.5	No
25	Alton Parkway	Ada to Technology Drive East	69.2	70.7	70.7	1.5	1.5	**Yes**
26	Alton Parkway	Von Karman Avenue to Jamboree Road	68.7	69.7	69.8	1.1	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.8	69.9	69.9	0.1	1.5	No
28	Alton Parkway	Hughes to Morgan	69.5	69.8	69.8	0.3	1.5	No
29	Alton Parkway	Morgan to Toledo Way	68.8	69.1	69.1	0.3	1.5	No
30	Alton Parkway	San Marino to Culver Drive	68.8	69.2	69.2	0.4	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.0	69.0	69.2	1.2	1.5	No

Table 14

32	Alton Parkway	Hospital to Laguna Canyon Road	70.7	72.0	72.1	1.4	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.1	71.8	71.9	0.8	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.1	68.8	69.0	0.9	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	68.0	68.7	68.7	0.7	1.5	No
36	Alton Parkway	Fairbanks to Foster	67.5	68.5	68.6	1.1	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.2	68.4	68.4	0.2	1.5	No
38	Alton Parkway	Pacifica to Meridian	69.7	71.7	71.7	2.0	1.5	**Yes**
39	Alton Parkway	Bertea to Fairbanks	68.1	68.3	68.3	0.2	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	68.3	68.3	1.7	1.5	**Yes**
41	Alton Parkway	Paseo Westpark to San Marino	67.9	68.3	68.3	0.4	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	66.9	67.7	67.9	1.0	1.5	No
43	Astor	Lynx to Fairbanks	57.5	67.1	67.1	9.6	5.0	**Yes**
44	Astor	Cadence to Lynx	0.0	65.9	65.9	65.9	5.0	**Yes**
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	75.4	76.7	76.7	1.3	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.7	73.0	73.1	0.4	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	74.7	75.1	75.1	0.4	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	71.9	72.1	72.2	0.3	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.5	71.7	71.7	0.2	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.4	71.6	71.6	0.2	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	68.5	69.6	69.7	1.2	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.1	64.9	65.1	1.0	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	61.9	63.4	63.7	1.8	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	57.6	60.3	60.3	2.7	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	73.3	73.3	2.8	1.5	**Yes**
56	Barranca Parkway	Banting to Pacifica	70.7	72.8	72.8	2.1	1.5	**Yes**
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	73.0	73.0	3.2	1.5	**Yes**
58	Barranca Parkway	Technology Drive West to Ada	70.4	72.7	72.7	2.3	1.5	**Yes**
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	72.6	72.6	3.3	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	71.9	72.3	72.3	0.4	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	72.2	72.3	0.6	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.6	72.1	72.1	0.5	1.5	No
63	Barranca Parkway	Ada to Alton Parkway	70.2	72.1	72.2	2.0	1.5	**Yes**
64	Barranca Parkway	Lake Road to Creek Road	71.2	71.8	71.8	0.6	1.5	No
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	74.7	74.8	1.5	1.5	**Yes**
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	71.6	71.7	2.0	1.5	**Yes**
67	Barranca Parkway	Lyon to East Yale Loop	71.0	71.6	71.6	0.6	1.5	No
68	Barranca Parkway	Creek Road to Lyon	70.9	71.5	71.5	0.6	1.5	No

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69	Barranca Parkway	Von Karman Avenue to Jamboree Road	71.5	72.8	72.8	1.3	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	71.1	71.1	2.6	1.5	**Yes**
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.0	72.5	72.5	0.5	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	70.8	70.8	1.7	1.5	**Yes**
73	Barranca Parkway	Jamboree Road to Construction Circle	70.1	71.2	71.2	1.1	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	69.8	71.0	71.1	1.3	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	70.5	70.6	1.8	1.5	**Yes**
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	70.4	70.5	2.2	1.5	**Yes**
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	70.4	70.4	1.6	1.5	**Yes**
78	Barranca Parkway	Pullman Street to Red Hill Avenue	72.7	73.7	73.6	0.9	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	69.4	70.6	70.6	1.2	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	69.4	70.6	70.6	1.2	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	69.3	70.6	70.6	1.3	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.2	70.2	70.3	1.1	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	56.1	57.1	57.1	1.0	5.0	No
84	Beacon	Ridge Valley to Benchmark	0.0	59.7	59.7	59.7	5.0	**Yes**
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	56.5	56.5	56.5	5.0	**Yes**
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	68.6	69.6	69.7	1.1	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.0	70.3	70.3	0.3	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	67.5	68.6	68.6	1.1	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	67.5	68.2	68.2	0.7	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.5	68.0	68.1	0.6	1.5	No
91	Bosque	Cadence to Great Park Boulevard	63.0	65.2	65.2	2.2	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	59.7	63.6	63.6	3.9	5.0	No
93	Bosque	Benchmark to Cadence	59.7	63.2	63.2	3.5	5.0	No
94	Bosque	Great Park Boulevard to Beacon	0.0	56.8	56.8	56.8	5.0	**Yes**
95	Bosque	Beacon to S 5th Street	0.0	56.2	56.2	56.2	5.0	**Yes**
96	Bryan Avenue	Jamboree Road to Market Place	68.7	69.0	69.1	0.4	1.5	No
97	Bryan Avenue	Market Place to El Camino Real	68.7	68.9	68.8	0.1	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.7	68.8	68.9	0.2	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.7	68.8	68.9	0.2	1.5	No
100	Bryan Avenue	Eastwood to Jeffrey Road	65.8	67.1	67.2	1.4	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.8	66.8	0.5	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.3	66.7	66.7	0.4	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	65.8	66.7	66.8	1.0	1.5	No
104	Cadence	Pusan to Chinon	64.5	65.6	65.6	1.1	3.0	No
105	Cadence	Bosque to Pusan	65.7	65.3	65.3	-0.4	1.5	No

Table 14

106	Cadence	Ridge Valley (O Street) to Bosque	62.6	64.0	64.0	1.4	3.0	No
107	Cadence	Chinon to Merit	62.6	62.3	62.4	-0.2	3.0	No
108	Cadence	Merit to Astor	0.0	59.4	59.4	59.4	5.0	**Yes**
109	California Avenue	University Drive to Academy Way	64.3	66.2	67.3	3.0	3.0	**Yes**
110	California Avenue	Campus Drive to Harvard Avenue	63.2	64.2	64.2	1.0	3.0	No
111	California Avenue	Theory to Bison Avenue	63.1	63.9	64.0	0.9	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	70.9	73.2	73.3	2.4	1.5	**Yes**
113	Campus Drive	University Drive to Bridge Road	70.1	71.8	71.8	1.7	1.5	**Yes**
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	71.5	71.6	2.6	1.5	**Yes**
115	Campus Drive	Stanford Court to Berkeley Avenue	70.1	71.1	71.1	1.0	1.5	No
116	Campus Drive	California Avenue to Culver Drive	68.9	70.9	70.9	2.0	1.5	**Yes**
117	Campus Drive	Berkeley Avenue to Cornell	68.9	70.0	69.9	1.0	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	67.5	69.1	69.2	1.7	1.5	**Yes**
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.5	68.7	68.7	0.2	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	68.4	68.5	1.7	1.5	**Yes**
121	Campus Drive	MacArthur Boulevard to Martin	67.5	68.2	68.3	0.8	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	66.8	67.5	67.6	0.8	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	67.9	67.9	3.4	3.0	**Yes**
124	Chinon	Irvine Boulevard to Cadence	56.6	58.8	58.8	2.2	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	55.3	56.3	56.3	1.0	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.4	74.0	73.9	0.5	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.4	73.9	73.8	0.4	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.7	73.9	73.9	0.2	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.7	73.8	73.8	0.1	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.4	73.6	73.6	0.2	1.5	No
131	Culver Drive	San Leandro to Main Street	73.2	73.3	73.3	0.1	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	72.7	73.4	73.4	0.7	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.1	74.2	74.2	0.1	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	72.9	73.2	73.2	0.3	1.5	No
135	Culver Drive	Main Street to Alton Parkway	72.7	73.1	73.1	0.4	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	72.7	73.0	73.0	0.3	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.6	72.9	72.8	0.2	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.6	72.8	72.9	0.3	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	71.4	72.0	72.0	0.6	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.3	72.5	72.5	0.2	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	71.9	72.5	72.5	0.6	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.1	72.4	72.4	0.3	1.5	No

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Table 14

143	Culver Drive	Palo Verde to Campus Drive	71.4	71.6	71.6	0.2	1.5	No
144	Culver Drive	University Drive to Sandburg Way	71.5	72.2	72.2	0.7	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	72.8	73.2	73.2	0.4	1.5	No
146	Culver Drive	Campus Drive to High School	71.6	72.1	72.1	0.5	1.5	No
147	Culver Drive	High School to Harvard Avenue	71.6	72.0	72.0	0.4	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.5	71.8	71.8	0.3	1.5	No
149	Culver Drive	Portola Parkway to Settlers	68.9	71.2	71.2	2.3	1.5	**Yes**
150	Culver Drive	Florence to Irvine Boulevard	71.3	71.7	71.7	0.4	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.0	70.5	70.5	0.5	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.0	70.4	70.4	0.4	1.5	No
153	Culver Drive	Settlers to Furrow	0.0	68.5	68.6	68.6	5.0	**Yes**
154	Culver Drive	Meadowood to Portola Parkway	68.3	69.0	69.0	0.7	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	65.5	65.5	8.9	5.0	**Yes**
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	63.6	63.6	63.6	5.0	**Yes**
157	East Yale Loop	Alton Parkway to Witherspoon	64.6	65.6	65.6	1.0	3.0	No
158	East Yale Loop	Osborn Street to Barranca Parkway	64.3	65.4	65.4	1.1	3.0	No
159	East Yale Loop	Yale Avenue to Springbrook South	62.3	65.0	65.0	2.7	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	62.3	63.6	63.6	1.3	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.3	62.8	62.9	0.6	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.3	62.4	62.5	0.2	3.0	No
163	Eastwood	Bryan Avenue to Monticello	59.5	60.8	60.9	1.4	5.0	No
164	Eastwood	Columbus to Bryan Avenue	58.5	58.8	58.9	0.4	5.0	No
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	66.9	67.1	67.2	0.3	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.2	62.4	62.4	0.2	3.0	No
167	Fairbanks	Alton Parkway to Astor	61.3	69.8	69.9	8.6	3.0	**Yes**
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	66.9	66.9	66.9	5.0	**Yes**
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	63.3	64.0	64.0	0.7	3.0	No
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	63.5	63.5	6.5	5.0	**Yes**
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	59.4	62.3	62.2	2.8	5.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	56.8	59.2	59.2	2.4	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	74.6	74.6	4.1	1.5	**Yes**
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	70.3	70.4	6.4	3.0	**Yes**
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	69.0	69.1	69.1	5.0	**Yes**
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	68.4	68.4	68.4	5.0	**Yes**
177	Harvard Avenue	University Drive to Michelson Drive	71.2	72.0	72.1	0.9	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	69.5	70.4	70.5	1.0	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	69.4	70.2	70.3	0.9	1.5	No

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180	Harvard Avenue	Coronado to Main Street	69.3	70.1	70.2	0.9	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.4	70.1	70.2	0.8	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.3	70.0	70.1	0.8	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.5	68.8	68.6	0.1	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.5	68.8	68.7	0.2	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.4	68.6	68.6	0.2	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	67.5	67.5	2.0	1.5	**Yes**
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	67.4	67.4	1.9	1.5	**Yes**
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.6	67.9	67.9	0.3	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.2	67.9	67.8	0.6	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	67.8	67.8	1.7	1.5	**Yes**
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	68.8	68.9	2.1	1.5	**Yes**
192	Harvard Avenue	California Avenue to Berkeley Avenue	66.1	67.4	67.3	1.2	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.1	67.3	67.3	1.2	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	66.1	67.2	67.2	1.1	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	65.9	66.7	66.8	0.9	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	58.2	58.2	0.0	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	57.5	57.5	57.5	5.0	**Yes**
198	Hubble	Irvine Center Drive to Bunsen	55.5	55.9	56.1	0.6	5.0	No
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.1	72.2	72.3	0.2	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.0	72.2	72.2	0.2	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	72.9	73.0	73.0	0.1	1.5	No
202	Irvine Boulevard	Merit to Alton	71.4	71.6	71.6	0.2	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.4	71.6	71.7	0.3	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.9	71.1	71.2	0.3	1.5	No
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	70.8	71.0	71.0	0.2	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.4	71.2	71.3	0.9	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.5	71.2	71.3	0.8	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	71.1	71.1	0.6	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.3	71.1	71.2	0.9	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.5	71.1	71.2	0.7	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.3	71.0	71.1	0.8	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.3	71.0	71.1	0.8	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.6	70.9	71.1	0.5	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	69.8	70.5	70.6	0.8	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/ The Groves to Jeffrey Road	70.2	70.7	70.8	0.6	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.2	70.5	70.5	0.3	1.5	No

217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.1	70.6	70.7	0.6	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	69.9	70.5	70.6	0.7	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	69.9	70.4	70.5	0.6	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.0	70.2	70.2	0.2	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.5	70.0	70.0	0.5	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.0	69.6	69.7	0.7	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.4	68.6	68.6	0.2	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	72.7	72.8	1.5	1.5	**Yes**
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	72.0	72.0	2.3	1.5	**Yes**
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	70.9	72.2	72.3	1.4	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	71.9	71.9	2.2	1.5	**Yes**
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	71.7	71.7	2.2	1.5	**Yes**
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	71.6	71.6	1.9	1.5	**Yes**
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	71.6	71.6	2.0	1.5	**Yes**
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	71.6	71.7	2.3	1.5	**Yes**
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	71.5	71.5	1.8	1.5	**Yes**
233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	71.3	71.4	2.5	1.5	**Yes**
234	Irvine Center Drive	Spectrum to Pacifica	68.9	71.3	71.3	2.4	1.5	**Yes**
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	71.0	71.0	1.8	1.5	**Yes**
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	70.9	71.0	2.9	1.5	**Yes**
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	69.7	70.6	70.6	0.9	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	70.7	70.7	1.6	1.5	**Yes**
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	70.7	70.7	2.6	1.5	**Yes**
240	Irvine Center Drive	Harvard Avenue to Hearthstone	69.2	70.3	70.3	1.1	1.5	No
241	Irvine Center Drive	Research to Hubble	67.9	69.8	70.0	2.1	1.5	**Yes**
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	70.1	70.2	3.3	1.5	**Yes**
243	Irvine Center Drive	Bake Parkway to Muller	67.9	69.7	69.8	1.9	1.5	**Yes**
244	Irvine Center Drive	Discovery to Charter	67.3	70.2	70.2	2.9	1.5	**Yes**
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	69.5	69.6	1.8	1.5	**Yes**
246	Irvine Center Drive	Muller to Tesla	67.7	69.3	69.4	1.7	1.5	**Yes**
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	69.4	69.4	1.8	1.5	**Yes**
248	Irvine Center Drive	Tesla to Scientific Way	67.1	68.9	69.1	2.0	1.5	**Yes**
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	68.7	68.9	1.7	1.5	**Yes**
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	68.8	68.9	2.2	1.5	**Yes**
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	68.8	68.9	2.1	1.5	**Yes**
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	68.8	68.9	2.1	1.5	**Yes**
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	71.0	71.1	1.5	1.5	**Yes**

254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.3	74.5	74.5	0.2	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.1	75.6	75.7	0.6	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.5	73.9	73.9	0.4	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.5	77.0	77.0	0.5	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.5	73.6	73.6	0.1	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	75.7	76.4	76.4	0.7	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	73.6	74.4	74.4	0.8	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.5	76.0	76.1	0.6	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.4	76.0	76.0	0.6	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.1	73.0	73.1	1.0	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.3	73.9	74.0	0.7	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.2	75.6	75.7	0.5	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	72.2	73.5	73.6	1.4	1.5	No
267	Jamboree Road	Beckman to Barranca Parkway	75.0	75.3	75.3	0.3	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	74.9	75.1	75.1	0.2	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.5	73.2	73.2	0.7	1.5	No
270	Jamboree Road	El Camino Real to West Drive	74.9	75.0	74.9	0.0	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	74.9	74.9	74.9	0.0	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.5	74.6	74.6	0.1	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	71.7	72.8	72.9	1.2	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	71.8	72.8	72.8	1.0	1.5	No
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.0	70.7	70.7	0.7	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.0	79.2	79.2	0.2	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.1	78.3	78.4	0.3	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.8	78.0	78.0	0.2	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	70.9	71.4	71.4	0.5	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	71.8	72.3	72.3	0.5	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.4	70.9	71.0	0.6	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.3	70.9	70.9	0.6	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.2	70.7	70.8	0.6	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.4	70.9	71.0	0.6	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.3	70.7	70.7	0.4	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.4	70.8	70.8	0.4	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.1	70.5	70.5	0.4	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.4	69.6	69.7	0.3	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.4	69.6	69.7	0.3	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.0	70.4	70.4	0.4	1.5	No

291	Jeffrey Road	Grove to Trabuco Road	70.0	70.2	70.2	0.2	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.1	68.5	68.6	0.5	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	64.0	65.8	65.5	1.5	3.0	No
294	Jeffrey Road	Irvine Boulevard to Encore	64.0	65.5	65.4	1.4	3.0	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.4	64.6	64.6	0.2	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.1	64.3	64.3	0.2	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	72.6	73.3	73.4	0.8	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	69.9	70.0	2.3	1.5	**Yes**
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	69.5	69.5	4.7	3.0	**Yes**
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	67.9	68.0	2.0	1.5	**Yes**
301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	69.0	69.0	5.4	3.0	**Yes**
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	67.9	68.0	2.0	1.5	**Yes**
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	67.0	67.1	1.6	1.5	**Yes**
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	67.5	67.5	3.0	3.0	**Yes**
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	64.8	66.3	66.4	1.6	3.0	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	63.9	66.2	66.3	2.4	3.0	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	68.3	69.4	69.6	1.3	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	68.3	69.3	69.5	1.2	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	65.3	66.4	66.6	1.3	1.5	No
310	Lake Road	Alton Parkway to Barranca Parkway	59.0	59.2	59.2	0.2	5.0	No
311	Lynx	Irvine Boulevard to Astor	0.0	53.2	53.2	53.2	5.0	**Yes**
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.0	76.7	76.8	0.8	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	75.8	76.7	76.7	0.9	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	75.7	76.6	76.6	0.9	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.7	69.9	69.9	0.2	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.7	69.8	69.8	0.1	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.4	70.5	70.5	0.1	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.3	72.2	72.3	1.0	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.3	72.1	72.3	1.0	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.0	69.5	69.5	0.5	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.0	68.3	68.4	0.4	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.5	67.1	67.2	0.7	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	68.5	69.3	69.5	1.0	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	70.9	70.9	1.5	1.5	**Yes**
325	Main Street	MacArthur Boulevard to Mercantile	69.4	70.3	70.3	0.9	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	67.7	68.4	68.5	0.8	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.2	68.5	68.5	1.3	1.5	No

328	Main Street	McDurmott to Red Hill Avenue	67.9	68.1	68.1	0.2	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.7	68.0	68.0	0.3	1.5	No
330	Main Street	Jamboree Road to Union	67.4	67.8	67.9	0.5	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.0	67.2	67.2	0.2	1.5	No
332	Main Street	Siglo to Jamboree Road	67.2	67.7	67.7	0.5	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.4	67.5	67.6	0.2	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.2	66.3	66.4	0.2	1.5	No
335	Main Street	Harvard Avenue to San Mateo	66.2	66.3	66.3	0.1	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	72.3	72.3	4.5	1.5	**Yes**
337	Marine Way	Alton Parkway to Bake Parkway	0.0	69.4	69.5	69.5	5.0	**Yes**
338	Marine Way	Lynx to Barranca Parkway	0.0	69.3	69.3	69.3	5.0	**Yes**
339	Marine Way	County Access to Treble	59.3	68.5	68.5	9.2	5.0	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	68.3	68.3	6.3	3.0	**Yes**
341	Marine Way	Skyhawk to County Access	59.3	67.4	67.4	8.1	5.0	**Yes**
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	66.8	66.8	14.1	5.0	**Yes**
343	Marine Way	Treble to Lynx	0.0	66.5	66.6	66.6	5.0	**Yes**
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	62.2	64.5	64.5	2.3	3.0	No
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	62.1	64.3	64.4	2.3	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	61.0	62.4	62.4	1.4	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	57.6	59.6	59.5	1.9	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.5	59.8	59.6	0.1	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.7	55.6	55.7	1.0	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	53.5	54.7	54.8	1.3	5.0	No
351	Merit	Irvine Boulevard to Cadence	59.3	58.0	58.0	-1.3	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	66.7	68.3	68.3	1.6	1.5	**Yes**
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.3	67.2	67.2	0.9	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	66.7	68.2	68.1	1.4	1.5	No
355	Michelson Drive	Parkside to Culver Drive	66.2	67.8	67.8	1.6	1.5	**Yes**
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.3	66.9	66.9	0.6	1.5	No
357	Michelson Drive	Carlson to Prince	65.4	67.3	67.3	1.9	1.5	**Yes**
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	66.7	67.5	67.5	0.8	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.2	66.8	66.8	0.6	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	64.9	66.8	66.9	2.0	3.0	No
361	Michelson Drive	Jamboree Road to Carlson	68.0	69.6	69.6	1.6	1.5	**Yes**
362	Michelson Drive	Teller to Jamboree Road	68.7	69.6	69.6	0.9	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.6	67.1	67.1	0.5	1.5	No
364	Michelson Drive	Culver Drive to Angell	65.9	66.3	66.3	0.4	1.5	No

365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	70.7	71.7	71.7	1.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	61.4	61.1	61.0	-0.4	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	66.4	67.2	67.3	0.9	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.1	66.3	66.2	0.1	1.5	No
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.1	66.3	66.3	0.2	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	65.9	66.6	66.7	0.8	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.0	65.1	65.1	0.1	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	60.8	61.8	61.7	0.9	3.0	No
373	Northwood	Yale Avenue to Savannah	62.3	62.5	62.5	0.2	3.0	No
374	Northwood	Goldrush to Yale Avenue	60.5	61.5	61.6	1.1	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	69.7	69.7	3.5	1.5	**Yes**
376	Pacifica	Gateway to Barranca Parkway	63.3	65.3	65.3	2.0	3.0	No
377	Pacifica	Alton Parkway to Gateway	61.8	64.1	64.2	2.4	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	61.7	62.7	62.7	1.0	3.0	No
379	Pacifica	Meridian to Alton Parkway	58.1	60.9	60.9	2.8	5.0	No
380	Park Place	Christamon South to Yale Avenue	56.8	57.0	57.0	0.2	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	71.7	71.8	1.5	1.5	**Yes**
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	71.7	71.8	1.5	1.5	**Yes**
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	71.4	71.5	1.9	1.5	**Yes**
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	71.1	71.1	1.5	1.5	**Yes**
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	70.1	70.1	4.6	1.5	**Yes**
386	Portola Parkway	Gatepark to Culver Drive	69.6	70.7	70.9	1.3	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	69.6	70.7	70.8	1.2	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	69.6	70.6	70.7	1.1	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	69.6	70.5	70.6	1.0	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	69.6	70.5	70.6	1.0	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	70.2	70.4	1.8	1.5	**Yes**
392	Portola Parkway	Culver Drive to Yale Avenue	68.6	69.7	69.8	1.2	1.5	No
393	Portola Parkway	Silverado to Portola Springs	66.5	68.6	68.7	2.2	1.5	**Yes**
394	Pusan	Irvine Boulevard to Cadence	54.0	56.2	56.1	2.1	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.3	67.5	67.5	0.2	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	64.8	65.4	65.4	0.6	3.0	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.4	54.9	55.0	0.6	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	70.8	71.6	71.7	0.9	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.6	70.2	70.3	0.7	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.5	70.1	70.1	0.6	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.3	69.9	70.1	0.8	1.5	No

402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.3	69.8	69.9	0.6	1.5	No
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	70.2	71.4	71.5	1.3	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	69.6	70.8	70.9	1.3	1.5	No
405	Research Drive	Hubble to Bake Parkway	65.4	69.6	69.7	4.3	1.5	**Yes**
406	Research Drive	Scientific to Lake Forest Drive	65.6	67.4	67.8	2.2	1.5	**Yes**
407	Research Drive	Bake Parkway to Muller	66.2	66.7	66.8	0.6	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	64.9	65.7	65.8	0.9	3.0	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	67.3	67.3	1.8	1.5	**Yes**
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	65.9	66.4	66.4	0.5	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	65.8	66.0	66.0	0.2	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.0	58.1	58.1	0.1	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	67.7	68.8	68.8	1.1	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	67.7	68.5	68.5	0.8	1.5	No
415	Rockfield Avenue	Whatney to McLaren	66.3	67.7	67.8	1.5	1.5	**Yes**
416	Rockfield Avenue	Bake Parkway to Whatney	62.5	64.3	64.4	1.9	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.5	63.1	63.2	0.7	3.0	No
418	Roosevelt	Jeffrey Road to Vision	65.2	66.6	66.7	1.5	1.5	**Yes**
419	Roosevelt	Yale Avenue to Van Buren	67.9	68.3	68.3	0.4	1.5	No
420	Roosevelt	Vision to Bay Tree	64.5	66.3	66.5	2.0	3.0	No
421	Roosevelt	Nimitz to Jeffrey Road	65.2	65.9	65.9	0.7	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	63.7	65.6	65.7	2.0	3.0	No
423	Royal Oak	Alton Parkway to Eaglecreek	63.8	64.0	64.0	0.2	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	72.2	72.2	1.5	1.5	**Yes**
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	70.6	72.0	72.0	1.4	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	73.6	74.7	74.7	1.1	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	72.7	72.8	1.6	1.5	**Yes**
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	74.6	74.8	2.1	1.5	**Yes**
429	Sand Canyon Avenue	Trabuco Road to Towngate	70.0	71.0	71.2	1.2	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	70.9	71.0	1.8	1.5	**Yes**
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	72.7	73.9	74.0	1.3	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	70.8	70.9	1.6	1.5	**Yes**
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.3	73.5	73.6	0.3	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	72.4	73.6	73.6	1.2	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.2	73.5	73.6	0.4	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	69.3	70.3	70.6	1.3	1.5	No
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	69.2	70.2	70.3	1.1	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	69.2	70.3	2.3	1.5	**Yes**

439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.6	72.8	72.8	0.2	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	69.7	70.8	70.9	1.2	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.3	71.8	71.8	0.5	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.6	55.0	55.0	0.4	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.6	69.3	69.4	0.8	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.1	67.7	67.8	0.7	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	59.6	59.5	6.7	5.0	**Yes**
446	Southwood	Yale Avenue to Colt	60.5	60.6	60.6	0.1	3.0	No
447	Southwood	Challenger to Yale Avenue	59.9	60.4	60.4	0.5	5.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.4	62.0	61.9	0.5	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.0	62.5	62.5	0.5	3.0	No
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	56.9	57.7	57.8	0.9	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	70.8	70.8	3.8	1.5	**Yes**
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	69.6	69.6	6.4	3.0	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	69.4	69.4	6.6	3.0	**Yes**
454	Technology Drive	Ada to Alton Parkway	57.8	63.7	63.7	5.9	5.0	**Yes**
455	Toledo Way	Bake Parkway to City Limits	65.5	65.6	65.6	0.1	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.5	64.7	64.7	0.2	3.0	No
457	Toledo Way	Alton Parkway to Parker	63.9	64.5	64.5	0.6	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	66.7	67.2	67.3	0.6	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.7	67.1	67.1	0.4	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.3	66.8	66.9	0.6	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.3	66.8	66.9	0.6	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.3	66.7	66.8	0.5	1.5	No
463	Trabuco Road	Yale Avenue to Remington	65.7	66.4	66.5	0.8	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	65.7	66.1	66.2	0.5	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	68.7	68.7	68.7	5.0	**Yes**
466	Turtle Rock Drive	Ridgeline to Willowleaf	66.9	67.9	67.9	1.0	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.0	67.8	67.8	0.8	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.7	67.1	67.1	0.4	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	63.9	64.0	64.0	0.1	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	63.8	64.1	64.2	0.4	3.0	No
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.3	65.5	65.4	0.1	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.2	73.0	73.1	0.9	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.1	72.6	72.6	0.5	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.1	72.9	72.9	0.8	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.0	72.4	72.4	0.4	1.5	No

476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.3	72.7	72.8	0.5	1.5	No
477	University Drive	Mesa to Campus Drive	73.3	74.5	74.6	1.3	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	73.3	74.4	74.7	1.4	1.5	No
479	University Drive	California Avenue to Mesa	73.3	74.4	74.5	1.2	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	69.5	70.7	70.8	1.3	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	70.4	71.6	71.8	1.4	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	69.2	70.2	70.4	1.2	1.5	No
483	University Drive	San Joaquin to Culver Drive	68.7	69.8	69.9	1.2	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	68.7	69.8	69.9	1.2	1.5	No
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	68.1	68.1	5.1	3.0	**Yes**
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	69.6	69.5	4.3	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	67.1	67.2	4.3	3.0	**Yes**
488	Valley Oak Drive	Alton Parkway to Hawkcreek	63.8	64.9	64.9	1.1	3.0	No
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	71.0	71.0	2.1	1.5	**Yes**
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	70.9	70.9	2.1	1.5	**Yes**
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	70.8	70.8	1.5	1.5	**Yes**
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	70.4	70.4	2.0	1.5	**Yes**
493	Von Karman Avenue	Main Street to Anchor	69.2	70.7	70.7	1.5	1.5	**Yes**
494	Von Karman Avenue	Anchor to McGaw Avenue	69.2	70.5	70.6	1.4	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.2	70.3	70.3	1.1	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	67.8	69.6	69.7	1.9	1.5	**Yes**
497	Von Karman Avenue	Campus Drive to Martin	67.8	69.5	69.6	1.8	1.5	**Yes**
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	69.5	69.6	1.8	1.5	**Yes**
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	70.9	71.0	2.1	1.5	**Yes**
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.6	69.1	69.2	0.6	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.2	68.8	68.9	0.7	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.2	68.8	68.8	0.6	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.0	68.5	68.6	0.6	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.0	68.5	68.5	0.5	1.5	No
505	Walnut Avenue	Culver Drive to Franciscan Street	68.0	68.4	68.4	0.4	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.0	68.0	68.1	1.1	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.0	67.9	67.9	0.9	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	66.3	67.3	67.3	1.0	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	66.3	67.2	67.2	0.9	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	69.6	70.2	70.1	0.5	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	67.8	68.6	68.6	0.8	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.1	67.1	67.1	1.0	1.5	No

513	Warner Avenue	Santa Ynez to Culver Drive	65.1	66.2	66.2	1.1	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	64.9	65.8	65.9	1.0	3.0	No
515	West Yale Loop	Alton Parkway to Blue Lake North	63.3	64.0	64.0	0.7	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.3	63.9	63.8	0.5	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	62.7	64.0	64.0	1.3	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.7	62.8	62.9	0.2	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	61.8	63.2	63.3	1.5	3.0	No
520	West Yale Loop	Warner Avenue to Stonecreek South	61.8	62.7	62.7	0.9	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	61.7	62.4	62.4	0.7	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	61.8	62.6	62.6	0.8	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	61.8	62.4	62.5	0.7	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.2	63.5	63.5	0.3	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.3	61.6	61.6	0.3	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.5	68.6	68.6	0.1	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.2	67.3	67.3	0.1	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.7	71.1	71.2	0.5	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	66.9	67.1	67.1	0.2	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.5	66.9	66.8	0.3	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	66.5	66.6	1.6	1.5	**Yes**
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.6	65.7	65.8	0.2	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.6	65.7	65.8	0.2	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.1	65.6	65.7	0.6	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.1	65.4	65.4	0.3	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	64.8	65.1	65.2	0.4	3.0	No
537	Yale Avenue	Bryan Avenue to Monticello	64.8	65.0	65.0	0.2	3.0	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.1	64.2	64.2	0.1	3.0	No
539	Yale Avenue	University Drive to Royce	57.9	63.6	63.5	5.6	5.0	**Yes**
540	Yale Court	Arborwood to Portola Parkway	60.0	60.4	60.4	0.4	1.5	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria ?

Table 15:Existing and Cumualtive Preferred Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]				Incremental Noise Level Increase Threshold[3]	
			Existing	Preferred	Cumulative Preferred	Cumulative Increase	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	70.8	70.8	70.8	5.0	**Yes**
2	Ada	Alton Parkway to Barranca PArkway	60.3	69.2	69.2	8.9	3.0	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	71.3	73.9	73.9	2.6	1.5	**Yes**
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	72.1	74.5	74.5	2.4	1.5	**Yes**
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.3	71.8	71.8	0.5	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	69.3	71.7	71.7	2.4	1.5	**Yes**
7	Alton Parkway	Jeffrey Road to Royal Oak	70.1	70.7	70.8	0.7	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	63.7	70.6	70.6	6.9	3.0	**Yes**
9	Alton Parkway	Culver Drive to West Yale Loop	70.4	70.6	70.6	0.2	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.3	70.6	70.6	0.3	1.5	No
11	Alton Parkway	Technology Drive West to Ada	70.2	72.4	72.4	2.2	1.5	**Yes**
12	Alton Parkway	Creek Road to East Yale Loop	70.1	70.5	70.6	0.5	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	68.1	70.4	70.5	2.4	1.5	**Yes**
14	Alton Parkway	Lake Road to Creek Road	70.1	70.3	70.3	0.2	1.5	No
15	Alton Parkway	Telemetry to Banting	69.0	70.3	70.4	1.4	1.5	No
16	Alton Parkway	Irvine Boulevard to Commercentre	70.3	70.8	70.9	0.6	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.0	70.3	70.3	1.3	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	68.6	71.0	71.0	2.4	1.5	**Yes**
19	Alton Parkway	Sand Canyon Avenue to Hospital	72.1	73.7	73.7	1.6	1.5	**Yes**
20	Alton Parkway	Laguna Canyon Road to Jenner	69.0	70.2	70.2	1.2	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	69.1	70.8	70.8	1.7	1.5	**Yes**
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.4	70.0	70.0	0.6	1.5	No
23	Alton Parkway	Banting to Pacifica	68.4	69.9	69.9	1.5	1.5	**Yes**
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.1	70.3	70.3	0.2	1.5	No
25	Alton Parkway	Ada to Technology Drive East	69.2	70.3	70.3	1.1	1.5	No
26	Alton Parkway	Von Karman Avenue to Jamboree Road	68.7	69.6	69.7	1.0	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.8	70.0	70.0	0.2	1.5	No
28	Alton Parkway	Hughes to Morgan	69.5	69.8	69.8	0.3	1.5	No
29	Alton Parkway	Morgan to Toledo Way	68.8	69.0	69.0	0.2	1.5	No
30	Alton Parkway	San Marino to Culver Drive	68.8	69.1	69.1	0.3	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.0	68.9	69.1	1.1	1.5	No

Table 15

32	Alton Parkway	Hospital to Laguna Canyon Road	70.7	71.9	72.0	1.3	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.1	71.8	71.8	0.7	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.1	68.7	68.9	0.8	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	68.0	68.7	68.7	0.7	1.5	No
36	Alton Parkway	Fairbanks to Foster	67.5	68.4	68.5	1.0	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.2	68.4	68.4	0.2	1.5	No
38	Alton Parkway	Pacifica to Meridian	69.7	71.5	71.6	1.9	1.5	**Yes**
39	Alton Parkway	Bertea to Fairbanks	68.1	68.3	68.3	0.2	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	66.6	68.2	68.2	1.6	1.5	**Yes**
41	Alton Parkway	Paseo Westpark to San Marino	67.9	68.1	68.2	0.3	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	66.9	67.5	67.7	0.8	1.5	No
43	Astor	Lynx to Fairbanks	57.5	67.0	67.0	9.5	5.0	**Yes**
44	Astor	Cadence to Lynx	0.0	65.8	65.8	65.8	5.0	**Yes**
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	75.4	76.6	76.6	1.2	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.7	72.9	72.9	0.2	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	74.7	75.0	75.0	0.3	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	71.9	72.0	72.0	0.1	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.5	71.6	71.7	0.2	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.4	71.6	71.6	0.2	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	68.5	69.5	69.6	1.1	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.1	64.8	65.0	0.9	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	61.9	63.4	63.7	1.8	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	57.6	60.2	60.1	2.5	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	70.5	73.1	73.1	2.6	1.5	**Yes**
56	Barranca Parkway	Banting to Pacifica	70.7	72.7	72.7	2.0	1.5	**Yes**
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	69.8	72.6	72.7	2.9	1.5	**Yes**
58	Barranca Parkway	Technology Drive West to Ada	70.4	72.6	72.6	2.2	1.5	**Yes**
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	69.3	72.3	72.4	3.1	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	71.9	72.2	72.2	0.3	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	72.1	72.1	0.4	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.6	72.0	72.0	0.4	1.5	No
63	Barranca Parkway	Ada to Alton Parkway	70.2	72.0	72.0	1.8	1.5	**Yes**
64	Barranca Parkway	Lake Road to Creek Road	71.2	71.7	71.7	0.5	1.5	No
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	73.3	74.7	74.7	1.4	1.5	No
66	Barranca Parkway	Discovery/Herchel to Banting	69.7	71.6	71.6	1.9	1.5	**Yes**
67	Barranca Parkway	Lyon to East Yale Loop	71.0	71.5	71.5	0.5	1.5	No
68	Barranca Parkway	Creek Road to Lyon	70.9	71.4	71.4	0.5	1.5	No

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69	Barranca Parkway	Von Karman Avenue to Jamboree Road	71.5	72.7	72.7	1.2	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	68.5	70.8	70.8	2.3	1.5	**Yes**
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.0	72.3	72.4	0.4	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	69.1	70.6	70.7	1.6	1.5	**Yes**
73	Barranca Parkway	Jamboree Road to Construction Circle	70.1	71.0	71.1	1.0	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	69.8	70.9	71.0	1.2	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	68.8	70.2	70.3	1.5	1.5	**Yes**
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	68.3	70.2	70.3	2.0	1.5	**Yes**
77	Barranca Parkway	Laguna Canyon Road to FedEx	68.8	70.1	70.1	1.3	1.5	No
78	Barranca Parkway	Pullman Street to Red Hill Avenue	72.7	73.6	73.6	0.9	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	69.4	70.5	70.5	1.1	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	69.4	70.5	70.5	1.1	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	69.3	70.4	70.5	1.2	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.2	70.1	70.2	1.0	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	56.1	57.2	57.2	1.1	5.0	No
84	Beacon	Ridge Valley to Benchmark	0.0	59.6	59.7	59.7	5.0	**Yes**
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	0.0	56.5	56.5	56.5	5.0	**Yes**
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	68.6	69.6	69.7	1.1	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.0	70.3	70.3	0.3	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	67.5	68.6	68.6	1.1	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	67.5	68.2	68.2	0.7	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.5	68.0	68.0	0.5	1.5	No
91	Bosque	Cadence to Great Park Boulevard	63.0	65.2	65.2	2.2	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	59.7	63.5	63.5	3.8	5.0	No
93	Bosque	Benchmark to Cadence	59.7	63.1	63.1	3.4	5.0	No
94	Bosque	Great Park Boulevard to Beacon	0.0	56.7	56.7	56.7	5.0	**Yes**
95	Bosque	Beacon to S 5th Street	0.0	56.1	56.1	56.1	5.0	**Yes**
96	Bryan Avenue	Jamboree Road to Market Place	68.7	68.9	69.0	0.3	1.5	No
97	Bryan Avenue	Market Place to El Camino Real	68.7	68.9	68.9	0.2	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.7	68.9	68.9	0.2	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.7	68.8	68.9	0.2	1.5	No
100	Bryan Avenue	Eastwood to Jeffrey Road	65.8	66.9	67.0	1.2	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.6	66.7	0.4	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.3	66.6	66.6	0.3	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	65.8	66.4	66.5	0.7	1.5	No
104	Cadence	Pusan to Chinon	64.5	65.6	65.6	1.1	3.0	No
105	Cadence	Bosque to Pusan	65.7	65.3	65.3	-0.4	1.5	No

106	Cadence	Ridge Valley (O Street) to Bosque	62.6	63.9	63.9	1.3	3.0	No
107	Cadence	Chinon to Merit	62.6	62.2	62.2	-0.4	3.0	No
108	Cadence	Merit to Astor	0.0	59.4	59.4	59.4	5.0	**Yes**
109	California Avenue	University Drive to Academy Way	64.3	66.2	67.2	2.9	3.0	No
110	California Avenue	Campus Drive to Harvard Avenue	63.2	64.2	64.2	1.0	3.0	No
111	California Avenue	Theory to Bison Avenue	63.1	63.9	64.0	0.9	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	70.9	73.2	73.3	2.4	1.5	**Yes**
113	Campus Drive	University Drive to Bridge Road	70.1	71.8	71.7	1.6	1.5	**Yes**
114	Campus Drive	Jamboree Road to Carlson Avenue	69.0	71.5	71.5	2.5	1.5	**Yes**
115	Campus Drive	Stanford Court to Berkeley Avenue	70.1	71.1	71.0	0.9	1.5	No
116	Campus Drive	California Avenue to Culver Drive	68.9	70.9	70.9	2.0	1.5	**Yes**
117	Campus Drive	Berkeley Avenue to Cornell	68.9	70.0	69.9	1.0	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	67.5	69.0	69.1	1.6	1.5	**Yes**
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.5	68.7	68.7	0.2	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	66.8	68.3	68.5	1.7	1.5	**Yes**
121	Campus Drive	MacArthur Boulevard to Martin	67.5	68.2	68.3	0.8	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	66.8	67.5	67.5	0.7	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	64.5	67.9	67.9	3.4	3.0	**Yes**
124	Chinon	Irvine Boulevard to Cadence	56.6	59.0	59.0	2.4	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	55.3	56.1	56.2	0.9	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.4	73.9	73.9	0.5	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.4	73.8	73.8	0.4	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.7	73.9	73.9	0.2	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.7	73.9	73.9	0.2	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.4	73.6	73.6	0.2	1.5	No
131	Culver Drive	San Leandro to Main Street	73.2	73.3	73.3	0.1	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	72.7	73.3	73.3	0.6	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.1	74.3	74.2	0.1	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	72.9	73.2	73.2	0.3	1.5	No
135	Culver Drive	Main Street to Alton Parkway	72.7	73.1	73.1	0.4	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	72.7	73.0	73.0	0.3	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.6	72.9	72.9	0.3	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.6	72.8	72.9	0.3	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	71.4	72.0	72.0	0.6	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.3	72.5	72.5	0.2	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	71.9	72.5	72.5	0.6	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.1	72.4	72.4	0.3	1.5	No

Table 15

143	Culver Drive	Palo Verde to Campus Drive	71.4	71.6	71.6	0.2	1.5	No
144	Culver Drive	University Drive to Sandburg Way	71.5	72.2	72.2	0.7	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	72.8	73.2	73.2	0.4	1.5	No
146	Culver Drive	Campus Drive to High School	71.6	72.1	72.1	0.5	1.5	No
147	Culver Drive	High School to Harvard Avenue	71.6	72.0	72.0	0.4	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.5	71.8	71.8	0.3	1.5	No
149	Culver Drive	Portola Parkway to Settlers	68.9	71.1	71.2	2.3	1.5	**Yes**
150	Culver Drive	Florence to Irvine Boulevard	71.3	71.7	71.7	0.4	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.0	70.5	70.5	0.5	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.0	70.4	70.4	0.4	1.5	No
153	Culver Drive	Settlers to Furrow	0.0	68.4	68.5	68.5	5.0	**Yes**
154	Culver Drive	Meadowood to Portola Parkway	68.3	69.0	69.0	0.7	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	56.6	64.0	64.0	7.4	5.0	**Yes**
156	Discovery Drive	Waterworks Way to Irvine Center Drive	0.0	61.2	61.2	61.2	5.0	**Yes**
157	East Yale Loop	Alton Parkway to Witherspoon	64.6	65.5	65.5	0.9	3.0	No
158	East Yale Loop	Osborn Street to Barranca Parkway	64.3	65.3	65.3	1.0	3.0	No
159	East Yale Loop	Yale Avenue to Springbrook South	62.3	64.8	64.9	2.6	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	62.3	63.5	63.6	1.3	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.3	62.7	62.7	0.4	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.3	62.4	62.4	0.1	3.0	No
163	Eastwood	Bryan Avenue to Monticello	59.5	60.8	60.8	1.3	5.0	No
164	Eastwood	Columbus to Bryan Avenue	58.5	58.7	58.8	0.3	5.0	No
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	66.9	67.1	67.1	0.2	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.2	62.4	62.4	0.2	3.0	No
167	Fairbanks	Alton Parkway to Astor	61.3	69.7	69.8	8.5	3.0	**Yes**
168	Fairbanks	Irvine Boulevard to Alton Parkway	0.0	66.9	66.9	66.9	5.0	**Yes**
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	63.3	64.1	64.0	0.7	3.0	No
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	57.0	63.3	63.3	6.3	5.0	**Yes**
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	59.4	62.1	62.1	2.7	5.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	56.8	59.1	59.2	2.4	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	70.5	74.4	74.5	4.0	1.5	**Yes**
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	64.0	70.2	70.2	6.2	3.0	**Yes**
175	Great Park Boulevard (EB)	Bosque to Skyhawk	0.0	68.8	68.9	68.9	5.0	**Yes**
176	Great Park Boulevard (WB)	Bosque to Skyhawk	0.0	68.3	68.3	68.3	5.0	**Yes**
177	Harvard Avenue	University Drive to Michelson Drive	71.2	72.0	72.0	0.8	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	69.5	70.4	70.5	1.0	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	69.4	70.1	70.2	0.8	1.5	No

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180	Harvard Avenue	Coronado to Main Street	69.3	70.1	70.2	0.9	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.4	70.0	70.1	0.7	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.3	70.0	70.0	0.7	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.5	68.8	68.6	0.1	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.5	68.8	68.7	0.2	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.4	68.6	68.6	0.2	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	65.5	67.4	67.4	1.9	1.5	**Yes**
187	Harvard Avenue	Deerfield Avenue to Poplar Street	65.5	67.3	67.4	1.9	1.5	**Yes**
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.6	67.8	67.9	0.3	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.2	67.8	67.8	0.6	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	66.1	67.8	67.8	1.7	1.5	**Yes**
191	Harvard Avenue	Poplar Street to Walnut Avenue	66.8	68.7	68.8	2.0	1.5	**Yes**
192	Harvard Avenue	California Avenue to Berkeley Avenue	66.1	67.2	67.2	1.1	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.1	67.2	67.2	1.1	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	66.1	67.1	67.1	1.0	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	65.9	66.8	66.8	0.9	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.2	58.2	58.2	0.0	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	0.0	57.5	57.6	57.6	5.0	**Yes**
198	Hubble	Irvine Center Drive to Bunsen	55.5	55.9	56.1	0.6	5.0	No
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.1	72.3	72.3	0.2	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.0	72.2	72.1	0.1	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	72.9	73.1	73.1	0.2	1.5	No
202	Irvine Boulevard	Merit to Alton	71.4	71.6	71.6	0.2	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.4	71.6	71.7	0.3	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	70.9	71.2	71.1	0.2	1.5	No
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	70.8	71.0	71.0	0.2	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.4	71.1	71.2	0.8	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.5	71.0	71.1	0.6	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.5	70.9	71.0	0.5	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.3	71.0	71.0	0.7	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.5	70.9	71.0	0.5	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.3	70.9	70.9	0.6	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.3	70.9	70.9	0.6	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.6	70.8	71.0	0.4	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	69.8	70.6	70.7	0.9	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/ The Groves to Jeffrey Road	70.2	70.6	70.6	0.4	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.2	70.5	70.5	0.3	1.5	No

217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.1	70.5	70.5	0.4	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	69.9	70.3	70.4	0.5	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	69.9	70.3	70.4	0.5	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.0	70.2	70.2	0.2	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.5	69.9	69.9	0.4	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.0	69.5	69.7	0.7	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.4	68.6	68.6	0.2	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	71.3	72.6	72.7	1.4	1.5	No
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	69.7	71.8	71.9	2.2	1.5	**Yes**
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	70.9	72.1	72.3	1.4	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	69.7	71.7	71.8	2.1	1.5	**Yes**
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	69.5	71.5	71.5	2.0	1.5	**Yes**
229	Irvine Center Drive	Culver Drive to Deerwood	69.7	71.4	71.5	1.8	1.5	**Yes**
230	Irvine Center Drive	Deerwood to Yale Avenue	69.6	71.4	71.4	1.8	1.5	**Yes**
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	69.4	71.4	71.5	2.1	1.5	**Yes**
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	69.7	71.3	71.4	1.7	1.5	**Yes**
233	Irvine Center Drive	Alton Parkway to Spectrum	68.9	71.0	71.1	2.2	1.5	**Yes**
234	Irvine Center Drive	Spectrum to Pacifica	68.9	71.0	71.0	2.1	1.5	**Yes**
235	Irvine Center Drive	Hearthstone to Culver Drive	69.2	70.9	70.9	1.7	1.5	**Yes**
236	Irvine Center Drive	Charter to Barranca Parkway	68.1	70.6	70.7	2.6	1.5	**Yes**
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	69.7	70.5	70.5	0.8	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	69.1	70.5	70.6	1.5	1.5	**Yes**
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	68.1	70.5	70.5	2.4	1.5	**Yes**
240	Irvine Center Drive	Harvard Avenue to Hearthstone	69.2	70.2	70.2	1.0	1.5	No
241	Irvine Center Drive	Research to Hubble	67.9	69.7	70.0	2.1	1.5	**Yes**
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	66.9	69.8	69.9	3.0	1.5	**Yes**
243	Irvine Center Drive	Bake Parkway to Muller	67.9	69.7	69.9	2.0	1.5	**Yes**
244	Irvine Center Drive	Discovery to Charter	67.3	69.8	69.9	2.6	1.5	**Yes**
245	Irvine Center Drive	Hubble to Bake Parkway	67.8	69.5	69.6	1.8	1.5	**Yes**
246	Irvine Center Drive	Muller to Tesla	67.7	69.3	69.4	1.7	1.5	**Yes**
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	67.6	69.2	69.2	1.6	1.5	**Yes**
248	Irvine Center Drive	Tesla to Scientific Way	67.1	68.9	69.1	2.0	1.5	**Yes**
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	67.2	68.7	68.9	1.7	1.5	**Yes**
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	66.7	68.6	68.7	2.0	1.5	**Yes**
251	Irvine Center Drive	Laguna Canyon Road to Discovery	66.8	68.6	68.7	1.9	1.5	**Yes**
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	66.8	68.5	68.6	1.8	1.5	**Yes**
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	69.6	70.9	70.9	1.3	1.5	No

254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.3	74.5	74.5	0.2	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.1	75.6	75.6	0.5	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.5	73.9	73.9	0.4	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.5	77.0	77.0	0.5	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.5	73.6	73.7	0.2	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	75.7	76.3	76.4	0.7	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	73.6	74.3	74.3	0.7	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.5	76.0	76.0	0.5	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.4	75.9	76.0	0.6	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.1	72.9	73.0	0.9	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.3	73.8	73.9	0.6	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.2	75.5	75.6	0.4	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	72.2	73.4	73.5	1.3	1.5	No
267	Jamboree Road	Beckman to Barranca Parkway	75.0	75.2	75.3	0.3	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	74.9	75.1	75.1	0.2	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.5	73.1	73.1	0.6	1.5	No
270	Jamboree Road	El Camino Real to West Drive	74.9	75.0	74.9	0.0	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	74.9	75.0	75.0	0.1	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.5	74.7	74.6	0.1	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	71.7	72.7	72.7	1.0	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	71.8	72.6	72.7	0.9	1.5	No
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.0	70.7	70.7	0.7	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.0	79.1	79.1	0.1	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.1	78.3	78.3	0.2	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.8	78.0	78.0	0.2	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	70.9	71.3	71.4	0.5	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	71.8	72.2	72.3	0.5	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.4	70.9	70.9	0.5	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.3	70.8	70.8	0.5	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.2	70.7	70.7	0.5	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.4	70.7	70.8	0.4	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.3	70.6	70.6	0.3	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.4	70.6	70.7	0.3	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.1	70.4	70.4	0.3	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.4	69.6	69.7	0.3	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.4	69.6	69.7	0.3	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.0	70.4	70.4	0.4	1.5	No

291	Jeffrey Road	Grove to Trabuco Road	70.0	70.2	70.2	0.2	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.1	68.5	68.5	0.4	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	64.0	65.8	65.6	1.6	3.0	No
294	Jeffrey Road	Irvine Boulevard to Encore	64.0	65.5	65.4	1.4	3.0	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.4	64.6	64.5	0.1	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.1	64.3	64.3	0.2	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	72.6	73.3	73.4	0.8	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	67.7	69.9	70.0	2.3	1.5	**Yes**
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	64.8	69.1	69.1	4.3	3.0	**Yes**
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	66.0	67.9	68.0	2.0	1.5	**Yes**
301	Laguna Canyon Road	Irvine Center Drive to Discovery	63.6	67.5	67.5	3.9	3.0	**Yes**
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	66.0	67.9	68.0	2.0	1.5	**Yes**
303	Laguna Canyon Road	Pasteur to Alton Parkway	65.5	66.9	67.0	1.5	1.5	**Yes**
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	64.5	66.4	66.4	1.9	3.0	No
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	64.8	66.1	66.1	1.3	3.0	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	63.9	65.6	65.6	1.7	3.0	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	68.3	69.3	69.5	1.2	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	68.3	69.3	69.5	1.2	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	65.3	66.3	66.6	1.3	1.5	No
310	Lake Road	Alton Parkway to Barranca Parkway	59.0	59.2	59.2	0.2	5.0	No
311	Lynx	Irvine Boulevard to Astor	0.0	53.2	53.2	53.2	5.0	**Yes**
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.0	76.7	76.7	0.7	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	75.8	76.6	76.7	0.9	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	75.7	76.6	76.6	0.9	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.7	69.9	69.9	0.2	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.7	69.9	69.8	0.1	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.4	70.5	70.5	0.1	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.3	72.1	72.2	0.9	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.3	72.1	72.2	0.9	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.0	69.5	69.5	0.5	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.0	68.3	68.4	0.4	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.5	67.0	67.1	0.6	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	68.5	69.3	69.4	0.9	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	69.4	70.7	70.8	1.4	1.5	No
325	Main Street	MacArthur Boulevard to Mercantile	69.4	70.2	70.3	0.9	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	67.7	68.4	68.4	0.7	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.2	68.3	68.4	1.2	1.5	No

328	Main Street	McDurmott to Red Hill Avenue	67.9	68.1	68.1	0.2	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.7	68.0	68.0	0.3	1.5	No
330	Main Street	Jamboree Road to Union	67.4	67.8	67.8	0.4	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.0	67.1	67.2	0.2	1.5	No
332	Main Street	Siglo to Jamboree Road	67.2	67.7	67.7	0.5	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.4	67.5	67.5	0.1	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.2	66.4	66.3	0.1	1.5	No
335	Main Street	Harvard Avenue to San Mateo	66.2	66.4	66.3	0.1	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	67.8	72.3	72.3	4.5	1.5	**Yes**
337	Marine Way	Alton Parkway to Bake Parkway	0.0	69.3	69.3	69.3	5.0	**Yes**
338	Marine Way	Lynx to Barranca Parkway	0.0	69.3	69.3	69.3	5.0	**Yes**
339	Marine Way	County Access to Treble	59.3	68.4	68.4	9.1	5.0	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	62.0	68.2	68.2	6.2	3.0	**Yes**
341	Marine Way	Skyhawk to County Access	59.3	67.1	67.2	7.9	5.0	**Yes**
342	Marine Way	Barranca Parkway to Alton Parkway	52.7	66.8	66.8	14.1	5.0	**Yes**
343	Marine Way	Treble to Lynx	0.0	66.4	66.4	66.4	5.0	**Yes**
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	62.2	64.3	64.3	2.1	3.0	No
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	62.1	64.1	64.2	2.1	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	61.0	62.4	62.5	1.5	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	57.6	59.3	59.4	1.8	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.5	59.8	59.8	0.3	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.7	55.3	55.5	0.8	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	53.5	54.6	54.7	1.2	5.0	No
351	Merit	Irvine Boulevard to Cadence	59.3	57.9	58.0	-1.3	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	66.7	68.3	68.3	1.6	1.5	**Yes**
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.3	67.1	67.1	0.8	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	66.7	68.0	68.0	1.3	1.5	No
355	Michelson Drive	Parkside to Culver Drive	66.2	67.8	67.8	1.6	1.5	**Yes**
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.3	66.8	66.8	0.5	1.5	No
357	Michelson Drive	Carlson to Prince	65.4	67.3	67.3	1.9	1.5	**Yes**
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	66.7	67.3	67.3	0.6	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.2	66.8	66.8	0.6	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	64.9	66.7	66.7	1.8	3.0	No
361	Michelson Drive	Jamboree Road to Carlson	68.0	69.6	69.6	1.6	1.5	**Yes**
362	Michelson Drive	Teller to Jamboree Road	68.7	69.6	69.6	0.9	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.6	66.9	66.9	0.3	1.5	No
364	Michelson Drive	Culver Drive to Angell	65.9	66.2	66.2	0.3	1.5	No

365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	70.7	71.7	71.7	1.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	61.4	61.1	61.0	-0.4	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	66.4	67.1	67.2	0.8	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.1	66.3	66.3	0.2	1.5	No
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.1	66.3	66.3	0.2	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	65.9	66.6	66.6	0.7	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.0	65.1	65.1	0.1	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	60.8	61.9	61.8	1.0	3.0	No
373	Northwood	Yale Avenue to Savannah	62.3	62.5	62.5	0.2	3.0	No
374	Northwood	Goldrush to Yale Avenue	60.5	61.5	61.5	1.0	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	66.2	69.2	69.2	3.0	1.5	**Yes**
376	Pacifica	Gateway to Barranca Parkway	63.3	65.2	65.2	1.9	3.0	No
377	Pacifica	Alton Parkway to Gateway	61.8	64.0	64.0	2.2	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	61.7	62.7	62.8	1.1	3.0	No
379	Pacifica	Meridian to Alton Parkway	58.1	60.8	60.8	2.7	5.0	No
380	Park Place	Christamon South to Yale Avenue	56.8	57.0	57.0	0.2	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	70.3	71.5	71.7	1.4	1.5	No
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	70.3	71.5	71.7	1.4	1.5	No
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	69.6	71.4	71.5	1.9	1.5	**Yes**
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	69.6	71.0	71.1	1.5	1.5	**Yes**
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	65.5	70.1	70.1	4.6	1.5	**Yes**
386	Portola Parkway	Gatepark to Culver Drive	69.6	70.6	70.7	1.1	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	69.6	70.5	70.7	1.1	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	69.6	70.4	70.5	0.9	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	69.6	70.4	70.5	0.9	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	69.6	70.3	70.4	0.8	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	68.6	70.1	70.2	1.6	1.5	**Yes**
392	Portola Parkway	Culver Drive to Yale Avenue	68.6	69.6	69.7	1.1	1.5	No
393	Portola Parkway	Silverado to Portola Springs	66.5	68.5	68.6	2.1	1.5	**Yes**
394	Pusan	Irvine Boulevard to Cadence	54.0	56.2	56.1	2.1	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.3	67.4	67.4	0.1	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	64.8	65.5	65.5	0.7	3.0	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.4	54.8	54.9	0.5	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	70.8	71.5	71.6	0.8	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.6	70.1	70.2	0.6	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.5	70.0	70.1	0.6	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.3	69.9	70.0	0.7	1.5	No

402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.3	69.8	69.9	0.6	1.5	No
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	70.2	71.3	71.4	1.2	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	69.6	70.6	70.8	1.2	1.5	No
405	Research Drive	Hubble to Bake Parkway	65.4	69.5	69.5	4.1	1.5	**Yes**
406	Research Drive	Scientific to Lake Forest Drive	65.6	67.4	67.8	2.2	1.5	**Yes**
407	Research Drive	Bake Parkway to Muller	66.2	66.6	66.7	0.5	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	64.9	65.6	65.7	0.8	3.0	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	65.5	67.3	67.3	1.8	1.5	**Yes**
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	65.9	66.4	66.4	0.5	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	65.8	66.0	66.0	0.2	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.0	58.1	58.1	0.1	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	67.7	68.7	68.7	1.0	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	67.7	68.4	68.4	0.7	1.5	No
415	Rockfield Avenue	Whatney to McLaren	66.3	67.6	67.7	1.4	1.5	No
416	Rockfield Avenue	Bake Parkway to Whatney	62.5	64.1	64.2	1.7	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.5	63.1	63.1	0.6	3.0	No
418	Roosevelt	Jeffrey Road to Vision	65.2	66.5	66.6	1.4	1.5	No
419	Roosevelt	Yale Avenue to Van Buren	67.9	68.2	68.2	0.3	1.5	No
420	Roosevelt	Vision to Bay Tree	64.5	66.2	66.4	1.9	3.0	No
421	Roosevelt	Nimitz to Jeffrey Road	65.2	65.9	65.9	0.7	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	63.7	65.6	65.7	2.0	3.0	No
423	Royal Oak	Alton Parkway to Eaglecreek	63.8	64.0	64.0	0.2	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	70.7	72.1	72.1	1.4	1.5	No
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	70.6	71.9	72.0	1.4	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	73.6	74.6	74.6	1.0	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	71.2	72.7	72.7	1.5	1.5	**Yes**
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	72.7	74.6	74.8	2.1	1.5	**Yes**
429	Sand Canyon Avenue	Trabuco Road to Towngate	70.0	71.1	71.3	1.3	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	69.2	70.8	70.9	1.7	1.5	**Yes**
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	72.7	73.8	74.0	1.3	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	69.3	70.6	70.6	1.3	1.5	No
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.3	73.5	73.5	0.2	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	72.4	73.5	73.5	1.1	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.2	73.5	73.7	0.5	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	69.3	70.4	70.7	1.4	1.5	No
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	69.2	70.2	70.3	1.1	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	68.0	69.2	70.4	2.4	1.5	**Yes**

439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.6	72.8	72.8	0.2	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	69.7	70.6	70.6	0.9	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.3	71.7	71.8	0.5	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.6	55.0	54.9	0.3	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.6	69.2	69.2	0.6	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.1	67.5	67.6	0.5	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	52.8	59.6	59.6	6.8	5.0	**Yes**
446	Southwood	Yale Avenue to Colt	60.5	60.5	60.6	0.1	3.0	No
447	Southwood	Challenger to Yale Avenue	59.9	60.2	60.3	0.4	5.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.4	61.9	62.0	0.6	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.0	62.4	62.5	0.5	3.0	No
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	56.9	57.6	57.6	0.7	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	67.0	70.6	70.6	3.6	1.5	**Yes**
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	63.2	69.2	69.3	6.1	3.0	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	62.8	69.1	69.1	6.3	3.0	**Yes**
454	Technology Drive	Ada to Alton Parkway	57.8	63.0	63.1	5.3	5.0	**Yes**
455	Toledo Way	Bake Parkway to City Limits	65.5	65.7	65.7	0.2	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.5	64.7	64.7	0.2	3.0	No
457	Toledo Way	Alton Parkway to Parker	63.9	64.3	64.4	0.5	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	66.7	67.1	67.2	0.5	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.7	66.9	66.9	0.2	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.3	66.7	66.8	0.5	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.3	66.6	66.7	0.4	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.3	66.5	66.6	0.3	1.5	No
463	Trabuco Road	Yale Avenue to Remington	65.7	66.2	66.3	0.6	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	65.7	66.0	66.1	0.4	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	0.0	68.8	68.7	68.7	5.0	**Yes**
466	Turtle Rock Drive	Ridgeline to Willowleaf	66.9	67.8	67.8	0.9	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.0	67.7	67.8	0.8	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.7	67.0	67.0	0.3	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	63.9	64.0	64.0	0.1	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	63.8	64.1	64.0	0.2	3.0	No
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.3	65.4	65.4	0.1	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.2	72.9	73.0	0.8	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.1	72.5	72.6	0.5	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.1	72.8	72.9	0.8	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.0	72.3	72.4	0.4	1.5	No

476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.3	72.7	72.7	0.4	1.5	No
477	University Drive	Mesa to Campus Drive	73.3	74.5	74.6	1.3	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	73.3	74.4	74.6	1.3	1.5	No
479	University Drive	California Avenue to Mesa	73.3	74.3	74.4	1.1	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	69.5	70.6	70.7	1.2	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	70.4	71.5	71.7	1.3	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	69.2	70.1	70.3	1.1	1.5	No
483	University Drive	San Joaquin to Culver Drive	68.7	69.7	69.8	1.1	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	68.7	69.7	69.8	1.1	1.5	No
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	63.0	68.0	68.0	5.0	3.0	**Yes**
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	65.2	69.0	69.1	3.9	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	62.9	66.7	66.8	3.9	3.0	**Yes**
488	Valley Oak Drive	Alton Parkway to Hawkcreek	63.8	64.8	64.8	1.0	3.0	No
489	Von Karman Avenue	Marriott to Morse Avenue	68.9	70.9	70.9	2.0	1.5	**Yes**
490	Von Karman Avenue	Michelson Drive to Quartz	68.8	70.7	70.8	2.0	1.5	**Yes**
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	69.3	70.7	70.7	1.4	1.5	No
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	68.4	70.3	70.4	2.0	1.5	**Yes**
493	Von Karman Avenue	Main Street to Anchor	69.2	70.6	70.6	1.4	1.5	No
494	Von Karman Avenue	Anchor to McGaw Avenue	69.2	70.4	70.5	1.3	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.2	70.2	70.2	1.0	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	67.8	69.5	69.6	1.8	1.5	**Yes**
497	Von Karman Avenue	Campus Drive to Martin	67.8	69.5	69.5	1.7	1.5	**Yes**
498	Von Karman Avenue	Dupont Drive to Michelson Drive	67.8	69.5	69.5	1.7	1.5	**Yes**
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	68.9	70.9	70.9	2.0	1.5	**Yes**
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.6	69.1	69.1	0.5	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.2	68.7	68.8	0.6	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.2	68.7	68.7	0.5	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.0	68.4	68.5	0.5	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.0	68.4	68.3	0.3	1.5	No
505	Walnut Avenue	Culver Drive to Franciscan Street	68.0	68.3	68.4	0.4	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.0	67.9	68.0	1.0	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.0	67.8	67.8	0.8	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	66.3	67.1	67.2	0.9	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	66.3	67.1	67.2	0.9	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	69.6	70.2	70.1	0.5	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	67.8	68.6	68.5	0.7	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.1	67.0	67.0	0.9	1.5	No

513	Warner Avenue	Santa Ynez to Culver Drive	65.1	66.0	66.0	0.9	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	64.9	65.7	65.7	0.8	3.0	No
515	West Yale Loop	Alton Parkway to Blue Lake North	63.3	64.0	64.0	0.7	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.3	63.8	63.9	0.6	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	62.7	63.9	63.9	1.2	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.7	62.9	62.8	0.1	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	61.8	62.9	63.0	1.2	3.0	No
520	West Yale Loop	Warner Avenue to Stonecreek South	61.8	62.6	62.6	0.8	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	61.7	62.4	62.4	0.7	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	61.8	62.4	62.5	0.7	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	61.8	62.3	62.3	0.5	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.2	63.6	63.5	0.3	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.3	61.5	61.5	0.2	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.5	68.6	68.6	0.1	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.2	67.3	67.3	0.1	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.7	71.0	71.0	0.3	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	66.9	67.0	67.1	0.2	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	66.5	66.9	66.9	0.4	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.0	66.3	66.4	1.4	1.5	No
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.6	65.7	65.7	0.1	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.6	65.7	65.7	0.1	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.1	65.6	65.7	0.6	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.1	65.4	65.5	0.4	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	64.8	65.1	65.1	0.3	3.0	No
537	Yale Avenue	Bryan Avenue to Monticello	64.8	65.0	65.0	0.2	3.0	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.1	64.3	64.3	0.2	3.0	No
539	Yale Avenue	University Drive to Royce	57.9	63.4	63.5	5.6	5.0	**Yes**
540	Yale Court	Arborwood to Portola Parkway	60.0	60.3	60.3	0.3	1.5	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria ?

Table 16: Current General Plan and Cumulative Conservative Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]				Incremental Noise Level Increase Threshold[3]	
			Current GeneraL Plan	Conservative	Cumulative Conservative	Cumulative Increase	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	70.8	70.8	70.8	5.0	**Yes**
2	Ada	Alton Parkway to Barranca PArkway	67.1	69.3	69.3	2.2	1.5	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	72.6	74.1	74.1	1.5	1.5	**Yes**
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	73.3	74.8	74.8	1.5	1.5	**Yes**
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.5	71.8	71.8	0.3	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	70.5	72.0	72.0	1.5	1.5	**Yes**
7	Alton Parkway	Jeffrey Road to Royal Oak	70.4	70.9	70.9	0.5	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.4	70.7	70.7	0.3	1.5	No
9	Alton Parkway	Culver Drive to West Yale Loop	70.5	70.7	70.7	0.2	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.5	70.7	70.7	0.2	1.5	No
11	Alton Parkway	Technology Drive West to Ada	71.4	72.6	72.6	1.2	1.5	No
12	Alton Parkway	Creek Road to East Yale Loop	70.3	70.6	70.7	0.4	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	69.9	70.5	70.6	0.7	1.5	No
14	Alton Parkway	Lake Road to Creek Road	70.3	70.4	70.4	0.1	1.5	No
15	Alton Parkway	Telemetry to Banting	69.8	70.4	70.5	0.7	1.5	No
16	Alton Parkway	Irvine Boulevard to Commercentre	71.0	70.8	70.8	-0.2	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.7	70.4	70.4	0.7	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	69.8	71.2	71.3	1.5	1.5	**Yes**
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.6	73.7	73.7	0.1	1.5	No
20	Alton Parkway	Laguna Canyon Road to Jenner	69.7	70.3	70.3	0.6	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	70.4	71.2	71.2	0.8	1.5	No
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.7	70.1	70.1	0.4	1.5	No
23	Alton Parkway	Banting to Pacifica	69.3	70.0	70.1	0.8	1.5	No
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.3	70.9	71.0	0.7	1.5	No
25	Alton Parkway	Ada to Technology Drive East	70.2	70.7	70.7	0.5	1.5	No
26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.2	69.7	69.8	0.6	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.9	69.9	69.9	0.0	1.5	No
28	Alton Parkway	Hughes to Morgan	69.7	69.8	69.8	0.1	1.5	No
29	Alton Parkway	Morgan to Toledo Way	69.0	69.1	69.1	0.1	1.5	No
30	Alton Parkway	San Marino to Culver Drive	69.0	69.2	69.2	0.2	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.6	69.0	69.2	0.6	1.5	No

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32	Alton Parkway	Hospital to Laguna Canyon Road	71.5	72.0	72.1	0.6	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.4	71.8	71.9	0.5	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.5	68.8	69.0	0.5	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	69.0	68.7	68.7	-0.3	1.5	No
36	Alton Parkway	Fairbanks to Foster	68.7	68.5	68.6	-0.1	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.4	68.4	68.4	0.0	1.5	No
38	Alton Parkway	Pacifica to Meridian	70.7	71.7	71.7	1.0	1.5	No
39	Alton Parkway	Bertea to Fairbanks	68.3	68.3	68.3	0.0	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	67.5	68.3	68.3	0.8	1.5	No
41	Alton Parkway	Paseo Westpark to San Marino	68.0	68.3	68.3	0.3	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.1	67.7	67.9	0.8	1.5	No
43	Astor	Lynx to Fairbanks	66.9	67.1	67.1	0.2	1.5	No
44	Astor	Cadence to Lynx	66.0	65.9	65.9	-0.1	1.5	No
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.4	76.7	76.7	0.3	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.9	73.0	73.1	0.2	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.1	75.1	75.1	0.0	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	72.0	72.1	72.2	0.2	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.6	71.7	71.7	0.1	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	71.6	71.6	0.0	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.3	69.6	69.7	0.4	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.6	64.9	65.1	0.5	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.0	63.4	63.7	0.7	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	59.3	60.3	60.3	1.0	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	71.7	73.3	73.3	1.6	1.5	**Yes**
56	Barranca Parkway	Banting to Pacifica	71.8	72.8	72.8	1.0	1.5	No
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	70.9	73.0	73.0	2.1	1.5	**Yes**
58	Barranca Parkway	Technology Drive West to Ada	71.5	72.7	72.7	1.2	1.5	No
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	70.8	72.6	72.6	1.8	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	72.0	72.3	72.3	0.3	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	72.2	72.3	0.6	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.8	72.1	72.1	0.3	1.5	No
63	Barranca Parkway	Ada to Alton Parkway	72.3	72.1	72.2	-0.1	1.5	No
64	Barranca Parkway	Lake Road to Creek Road	71.4	71.8	71.8	0.4	1.5	No
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.4	74.7	74.8	0.4	1.5	No
66	Barranca Parkway	Discovery/Herchel to Banting	71.1	71.6	71.7	0.6	1.5	No
67	Barranca Parkway	Lyon to East Yale Loop	71.1	71.6	71.6	0.5	1.5	No
68	Barranca Parkway	Creek Road to Lyon	71.1	71.5	71.5	0.4	1.5	No

69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.4	72.8	72.8	0.4	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	70.6	71.1	71.1	0.5	1.5	No
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.1	72.5	72.5	0.4	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.4	70.8	70.8	0.4	1.5	No
73	Barranca Parkway	Jamboree Road to Construction Circle	70.7	71.2	71.2	0.5	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	70.6	71.0	71.1	0.5	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	69.6	70.5	70.6	1.0	1.5	No
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	69.7	70.4	70.5	0.8	1.5	No
77	Barranca Parkway	Laguna Canyon Road to FedEx	69.4	70.4	70.4	1.0	1.5	No
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.4	73.7	73.6	0.2	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	70.1	70.6	70.6	0.5	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	70.1	70.6	70.6	0.5	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.1	70.6	70.6	0.5	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.7	70.2	70.3	0.6	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	57.2	57.1	57.1	-0.1	5.0	No
84	Beacon	Ridge Valley to Benchmark	59.0	59.7	59.7	0.7	5.0	No
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.7	56.5	56.5	-0.2	5.0	No
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.7	69.6	69.7	0.0	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.2	70.3	70.3	0.1	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.5	68.6	68.6	0.1	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	68.2	68.2	0.0	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.9	68.0	68.1	0.2	1.5	No
91	Bosque	Cadence to Great Park Boulevard	64.8	65.2	65.2	0.4	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.0	63.6	63.6	0.6	3.0	No
93	Bosque	Benchmark to Cadence	63.0	63.2	63.2	0.2	3.0	No
94	Bosque	Great Park Boulevard to Beacon	56.9	56.8	56.8	-0.1	5.0	No
95	Bosque	Beacon to S 5th Street	55.9	56.2	56.2	0.3	5.0	No
96	Bryan Avenue	Jamboree Road to Market Place	68.9	69.0	69.1	0.2	1.5	No
97	Bryan Avenue	Market Place to El Camino Real	68.9	68.9	68.8	-0.1	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.9	68.8	68.9	0.0	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.9	68.8	68.9	0.0	1.5	No
100	Bryan Avenue	Eastwood to Jeffrey Road	66.3	67.1	67.2	0.9	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.8	66.8	0.5	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.4	66.7	66.7	0.3	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	66.0	66.7	66.8	0.8	1.5	No
104	Cadence	Pusan to Chinon	64.1	65.6	65.6	1.5	3.0	No
105	Cadence	Bosque to Pusan	64.2	65.3	65.3	1.1	3.0	No

106	Cadence	Ridge Valley (O Street) to Bosque	64.0	64.0	64.0	0.0	3.0	No
107	Cadence	Chinon to Merit	59.1	62.3	62.4	3.3	5.0	No
108	Cadence	Merit to Astor	58.6	59.4	59.4	0.8	5.0	No
109	California Avenue	University Drive to Academy Way	66.2	66.2	67.3	1.1	1.5	No
110	California Avenue	Campus Drive to Harvard Avenue	64.1	64.2	64.2	0.1	3.0	No
111	California Avenue	Theory to Bison Avenue	64.0	63.9	64.0	0.0	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	73.0	73.2	73.3	0.3	1.5	No
113	Campus Drive	University Drive to Bridge Road	71.7	71.8	71.8	0.1	1.5	No
114	Campus Drive	Jamboree Road to Carlson Avenue	71.3	71.5	71.6	0.3	1.5	No
115	Campus Drive	Stanford Court to Berkeley Avenue	71.0	71.1	71.1	0.1	1.5	No
116	Campus Drive	California Avenue to Culver Drive	70.9	70.9	70.9	0.0	1.5	No
117	Campus Drive	Berkeley Avenue to Cornell	69.9	70.0	69.9	0.0	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	68.7	69.1	69.2	0.5	1.5	No
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.6	68.7	68.7	0.1	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.1	68.4	68.5	0.4	1.5	No
121	Campus Drive	MacArthur Boulevard to Martin	68.1	68.2	68.3	0.2	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	67.2	67.5	67.6	0.4	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	67.8	67.9	67.9	0.1	1.5	No
124	Chinon	Irvine Boulevard to Cadence	58.3	58.8	58.8	0.5	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	56.0	56.3	56.3	0.3	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.7	74.0	73.9	0.2	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.9	73.9	73.8	-0.1	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	73.9	73.9	0.0	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.9	73.8	73.8	-0.1	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	73.6	73.6	0.0	1.5	No
131	Culver Drive	San Leandro to Main Street	73.3	73.3	73.3	0.0	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	73.3	73.4	73.4	0.1	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.4	74.2	74.2	-0.2	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	73.2	73.2	0.0	1.5	No
135	Culver Drive	Main Street to Alton Parkway	73.1	73.1	73.1	0.0	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	73.0	73.0	0.0	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.9	72.9	72.8	-0.1	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.8	72.8	72.9	0.1	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.1	72.0	72.0	-0.1	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.6	72.5	72.5	-0.1	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	72.5	72.5	0.0	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	72.4	72.4	0.0	1.5	No

Table 16

143	Culver Drive	Palo Verde to Campus Drive	71.6	71.6	71.6	0.0	1.5	No
144	Culver Drive	University Drive to Sandburg Way	72.2	72.2	72.2	0.0	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.3	73.2	73.2	-0.1	1.5	No
146	Culver Drive	Campus Drive to High School	72.1	72.1	72.1	0.0	1.5	No
147	Culver Drive	High School to Harvard Avenue	72.0	72.0	72.0	0.0	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.8	71.8	71.8	0.0	1.5	No
149	Culver Drive	Portola Parkway to Settlers	71.1	71.2	71.2	0.1	1.5	No
150	Culver Drive	Florence to Irvine Boulevard	71.7	71.7	71.7	0.0	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	70.5	70.5	0.0	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.5	70.4	70.4	-0.1	1.5	No
153	Culver Drive	Settlers to Furrow	68.3	68.5	68.6	0.3	1.5	No
154	Culver Drive	Meadowood to Portola Parkway	69.0	69.0	69.0	0.0	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	63.8	65.5	65.5	1.7	3.0	No
156	Discovery Drive	Waterworks Way to Irvine Center Drive	60.7	63.6	63.6	2.9	3.0	No
157	East Yale Loop	Alton Parkway to Witherspoon	65.3	65.6	65.6	0.3	1.5	No
158	East Yale Loop	Osborn Street to Barranca Parkway	65.0	65.4	65.4	0.4	1.5	No
159	East Yale Loop	Yale Avenue to Springbrook South	64.3	65.0	65.0	0.7	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	63.4	63.6	63.6	0.2	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.5	62.8	62.9	0.4	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.5	62.4	62.5	0.0	3.0	No
163	Eastwood	Bryan Avenue to Monticello	60.5	60.8	60.9	0.4	3.0	No
164	Eastwood	Columbus to Bryan Avenue	58.8	58.8	58.9	0.1	5.0	No
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.0	67.1	67.2	0.2	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	62.4	62.4	0.0	3.0	No
167	Fairbanks	Alton Parkway to Astor	69.7	69.8	69.9	0.2	1.5	No
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.8	66.9	66.9	0.1	1.5	No
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.0	64.0	64.0	0.0	3.0	No
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	62.8	63.5	63.5	0.7	3.0	No
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	61.6	62.3	62.2	0.6	3.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	58.4	59.2	59.2	0.8	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.1	74.6	74.6	0.5	1.5	No
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	69.7	70.3	70.4	0.7	1.5	No
175	Great Park Boulevard (EB)	Bosque to Skyhawk	68.0	69.0	69.1	1.1	1.5	No
176	Great Park Boulevard (WB)	Bosque to Skyhawk	67.6	68.4	68.4	0.8	1.5	No
177	Harvard Avenue	University Drive to Michelson Drive	71.8	72.0	72.1	0.3	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	70.2	70.4	70.5	0.3	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	70.0	70.2	70.3	0.3	1.5	No

180	Harvard Avenue	Coronado to Main Street	70.0	70.1	70.2	0.2	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.9	70.1	70.2	0.3	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.8	70.0	70.1	0.3	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.8	68.8	68.6	-0.2	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.6	68.8	68.7	0.1	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.6	68.6	68.6	0.0	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.4	67.5	67.5	0.1	1.5	No
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.4	67.4	67.4	0.0	1.5	No
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.9	67.9	67.9	0.0	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.6	67.9	67.8	0.2	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.7	67.8	67.8	0.1	1.5	No
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.7	68.8	68.9	0.2	1.5	No
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.0	67.4	67.3	0.3	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.9	67.3	67.3	0.4	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	67.0	67.2	67.2	0.2	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.8	66.7	66.8	0.0	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.4	58.2	58.2	-0.2	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.5	57.5	57.5	0.0	5.0	No
198	Hubble	Irvine Center Drive to Bunsen	55.7	55.9	56.1	0.4	5.0	No
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.3	72.2	72.3	0.0	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.2	72.2	72.2	0.0	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.1	73.0	73.0	-0.1	1.5	No
202	Irvine Boulevard	Merit to Alton	71.6	71.6	71.6	0.0	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.6	71.6	71.7	0.1	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.2	71.1	71.2	0.0	1.5	No
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	71.0	71.0	0.0	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.6	71.2	71.3	0.7	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.6	71.2	71.3	0.7	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.6	71.1	71.1	0.5	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.5	71.1	71.2	0.7	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.7	71.1	71.2	0.5	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.5	71.0	71.1	0.6	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.4	71.0	71.1	0.7	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.8	70.9	71.1	0.3	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.9	70.5	70.6	-0.3	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/ The Groves to Jeffrey Road	70.5	70.7	70.8	0.3	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	70.5	70.5	0.0	1.5	No

217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.2	70.6	70.7	0.5	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.1	70.5	70.6	0.5	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.1	70.4	70.5	0.4	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	70.2	70.2	0.0	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.6	70.0	70.0	0.4	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.6	69.6	69.7	0.1	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	68.6	68.6	0.0	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.5	72.7	72.8	0.3	1.5	No
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	71.4	72.0	72.0	0.6	1.5	No
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.1	72.2	72.3	0.2	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.3	71.9	71.9	0.6	1.5	No
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.0	71.7	71.7	0.7	1.5	No
229	Irvine Center Drive	Culver Drive to Deerwood	71.0	71.6	71.6	0.6	1.5	No
230	Irvine Center Drive	Deerwood to Yale Avenue	71.0	71.6	71.6	0.6	1.5	No
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	70.9	71.6	71.7	0.8	1.5	No
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.1	71.5	71.5	0.4	1.5	No
233	Irvine Center Drive	Alton Parkway to Spectrum	70.4	71.3	71.4	1.0	1.5	No
234	Irvine Center Drive	Spectrum to Pacifica	70.3	71.3	71.3	1.0	1.5	No
235	Irvine Center Drive	Hearthstone to Culver Drive	70.6	71.0	71.0	0.4	1.5	No
236	Irvine Center Drive	Charter to Barranca Parkway	70.2	70.9	71.0	0.8	1.5	No
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.3	70.6	70.6	0.3	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.3	70.7	70.7	0.4	1.5	No
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.0	70.7	70.7	0.7	1.5	No
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.0	70.3	70.3	0.3	1.5	No
241	Irvine Center Drive	Research to Hubble	69.8	69.8	70.0	0.2	1.5	No
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	69.4	70.1	70.2	0.8	1.5	No
243	Irvine Center Drive	Bake Parkway to Muller	69.9	69.7	69.8	-0.1	1.5	No
244	Irvine Center Drive	Discovery to Charter	69.3	70.2	70.2	0.9	1.5	No
245	Irvine Center Drive	Hubble to Bake Parkway	69.7	69.5	69.6	-0.1	1.5	No
246	Irvine Center Drive	Muller to Tesla	69.5	69.3	69.4	-0.1	1.5	No
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.0	69.4	69.4	0.4	1.5	No
248	Irvine Center Drive	Tesla to Scientific Way	69.2	68.9	69.1	-0.1	1.5	No
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.9	68.7	68.9	0.0	1.5	No
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.3	68.8	68.9	0.6	1.5	No
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.2	68.8	68.9	0.7	1.5	No
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.3	68.8	68.9	0.6	1.5	No
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	70.8	71.0	71.1	0.3	1.5	No

254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	74.5	74.5	0.0	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.4	75.6	75.7	0.3	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.8	73.9	73.9	0.1	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.9	77.0	77.0	0.1	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.6	73.6	73.6	0.0	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	76.2	76.4	76.4	0.2	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.2	74.4	74.4	0.2	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.8	76.0	76.1	0.3	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.8	76.0	76.0	0.2	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.6	73.0	73.1	0.5	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.5	73.9	74.0	0.5	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.4	75.6	75.7	0.3	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	73.2	73.5	73.6	0.4	1.5	No
267	Jamboree Road	Beckman to Barranca Parkway	75.2	75.3	75.3	0.1	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	75.1	75.1	0.0	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.7	73.2	73.2	0.5	1.5	No
270	Jamboree Road	El Camino Real to West Drive	75.1	75.0	74.9	-0.2	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	75.1	74.9	74.9	-0.2	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.8	74.6	74.6	-0.2	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	72.5	72.8	72.9	0.4	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	72.5	72.8	72.8	0.3	1.5	No
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.8	70.7	70.7	-0.1	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.1	79.2	79.2	0.1	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.2	78.3	78.4	0.2	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.9	78.0	78.0	0.1	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.3	71.4	71.4	0.1	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.2	72.3	72.3	0.1	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.8	70.9	71.0	0.2	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.5	70.9	70.9	0.4	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.6	70.7	70.8	0.2	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.5	70.9	71.0	0.5	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.4	70.7	70.7	0.3	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.5	70.8	70.8	0.3	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.3	70.5	70.5	0.2	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.7	69.6	69.7	0.0	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.7	69.6	69.7	0.0	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.4	70.4	70.4	0.0	1.5	No

291	Jeffrey Road	Grove to Trabuco Road	70.3	70.2	70.2	-0.1	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.5	68.5	68.6	0.1	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	66.1	65.8	65.5	-0.6	1.5	No
294	Jeffrey Road	Irvine Boulevard to Encore	65.6	65.5	65.4	-0.2	1.5	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.8	64.6	64.6	-0.2	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.7	64.3	64.3	-0.4	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.3	73.3	73.4	0.1	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	70.0	69.9	70.0	0.0	1.5	No
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	68.1	69.5	69.5	1.4	1.5	No
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	68.0	67.9	68.0	0.0	1.5	No
301	Laguna Canyon Road	Irvine Center Drive to Discovery	67.3	69.0	69.0	1.7	1.5	**Yes**
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	68.0	67.9	68.0	0.0	1.5	No
303	Laguna Canyon Road	Pasteur to Alton Parkway	66.9	67.0	67.1	0.2	1.5	No
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	66.2	67.5	67.5	1.3	1.5	No
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.0	66.3	66.4	0.4	1.5	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	65.6	66.2	66.3	0.7	1.5	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.2	69.4	69.6	0.4	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.2	69.3	69.5	0.3	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	66.2	66.4	66.6	0.4	1.5	No
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	59.2	59.2	0.0	5.0	No
311	Lynx	Irvine Boulevard to Astor	53.5	53.2	53.2	-0.3	5.0	No
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.4	76.7	76.8	0.4	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.5	76.7	76.7	0.2	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.4	76.6	76.6	0.2	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	69.9	69.9	0.0	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.8	69.8	69.8	0.0	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	70.5	70.5	0.0	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.8	72.2	72.3	0.5	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.9	72.1	72.3	0.4	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.6	69.5	69.5	-0.1	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.5	68.3	68.4	-0.1	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.8	67.1	67.2	0.4	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	69.1	69.3	69.5	0.4	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	70.2	70.9	70.9	0.7	1.5	No
325	Main Street	MacArthur Boulevard to Mercantile	69.9	70.3	70.3	0.4	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	68.2	68.4	68.5	0.3	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.8	68.5	68.5	0.7	1.5	No

328	Main Street	McDurmott to Red Hill Avenue	68.0	68.1	68.1	0.1	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.9	68.0	68.0	0.1	1.5	No
330	Main Street	Jamboree Road to Union	67.7	67.8	67.9	0.2	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.2	67.2	67.2	0.0	1.5	No
332	Main Street	Siglo to Jamboree Road	67.4	67.7	67.7	0.3	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.6	67.5	67.6	0.0	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.4	66.3	66.4	0.0	1.5	No
335	Main Street	Harvard Avenue to San Mateo	66.3	66.3	66.3	0.0	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.1	72.3	72.3	0.2	1.5	No
337	Marine Way	Alton Parkway to Bake Parkway	69.0	69.4	69.5	0.5	1.5	No
338	Marine Way	Lynx to Barranca Parkway	69.4	69.3	69.3	-0.1	1.5	No
339	Marine Way	County Access to Treble	65.3	68.5	68.5	3.2	1.5	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	67.6	68.3	68.3	0.7	1.5	No
341	Marine Way	Skyhawk to County Access	64.9	67.4	67.4	2.5	3.0	No
342	Marine Way	Barranca Parkway to Alton Parkway	66.3	66.8	66.8	0.5	1.5	No
343	Marine Way	Treble to Lynx	67.1	66.5	66.6	-0.5	1.5	No
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	63.6	64.5	64.5	0.9	3.0	No
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	63.6	64.3	64.4	0.8	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	62.4	62.4	62.4	0.0	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.2	59.6	59.5	0.3	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.8	59.8	59.6	-0.2	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.9	55.6	55.7	0.8	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	54.1	54.7	54.8	0.7	5.0	No
351	Merit	Irvine Boulevard to Cadence	57.3	58.0	58.0	0.7	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	67.8	68.3	68.3	0.5	1.5	No
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.7	67.2	67.2	0.5	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	67.8	68.2	68.1	0.3	1.5	No
355	Michelson Drive	Parkside to Culver Drive	66.8	67.8	67.8	1.0	1.5	No
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.5	66.9	66.9	0.4	1.5	No
357	Michelson Drive	Carlson to Prince	67.0	67.3	67.3	0.3	1.5	No
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.0	67.5	67.5	0.5	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.8	66.8	66.8	0.0	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	66.3	66.8	66.9	0.6	1.5	No
361	Michelson Drive	Jamboree Road to Carlson	69.5	69.6	69.6	0.1	1.5	No
362	Michelson Drive	Teller to Jamboree Road	69.5	69.6	69.6	0.1	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.8	67.1	67.1	0.3	1.5	No
364	Michelson Drive	Culver Drive to Angell	66.1	66.3	66.3	0.2	1.5	No

365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	71.7	71.7	0.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	60.6	61.1	61.0	0.4	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	67.2	67.2	67.3	0.1	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.3	66.3	66.2	-0.1	1.5	No
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.2	66.3	66.3	0.1	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.7	66.6	66.7	0.0	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.2	65.1	65.1	-0.1	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	62.1	61.8	61.7	-0.4	3.0	No
373	Northwood	Yale Avenue to Savannah	62.4	62.5	62.5	0.1	3.0	No
374	Northwood	Goldrush to Yale Avenue	61.3	61.5	61.6	0.3	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	67.4	69.7	69.7	2.3	1.5	**Yes**
376	Pacifica	Gateway to Barranca Parkway	64.6	65.3	65.3	0.7	3.0	No
377	Pacifica	Alton Parkway to Gateway	63.2	64.1	64.2	1.0	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	63.2	62.7	62.7	-0.5	3.0	No
379	Pacifica	Meridian to Alton Parkway	60.0	60.9	60.9	0.9	1.5	No
380	Park Place	Christamon South to Yale Avenue	57.0	57.0	57.0	0.0	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.3	71.7	71.8	0.5	1.5	No
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.3	71.7	71.8	0.5	1.5	No
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.3	71.4	71.5	0.2	1.5	No
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	70.9	71.1	71.1	0.2	1.5	No
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.0	70.1	70.1	0.1	1.5	No
386	Portola Parkway	Gatepark to Culver Drive	70.3	70.7	70.9	0.6	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.2	70.7	70.8	0.6	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.1	70.6	70.7	0.6	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	70.1	70.5	70.6	0.5	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.0	70.5	70.6	0.6	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	69.8	70.2	70.4	0.6	1.5	No
392	Portola Parkway	Culver Drive to Yale Avenue	69.4	69.7	69.8	0.4	1.5	No
393	Portola Parkway	Silverado to Portola Springs	68.5	68.6	68.7	0.2	1.5	No
394	Pusan	Irvine Boulevard to Cadence	56.1	56.2	56.1	0.0	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.6	67.5	67.5	-0.1	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.6	65.4	65.4	-0.2	1.5	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.9	54.9	55.0	0.1	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.3	71.6	71.7	0.4	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.9	70.2	70.3	0.4	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.9	70.1	70.1	0.2	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.7	69.9	70.1	0.4	1.5	No

402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.7	69.8	69.9	0.2	1.5	No
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.0	71.4	71.5	0.5	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	70.4	70.8	70.9	0.5	1.5	No
405	Research Drive	Hubble to Bake Parkway	69.5	69.6	69.7	0.2	1.5	No
406	Research Drive	Scientific to Lake Forest Drive	67.6	67.4	67.8	0.2	1.5	No
407	Research Drive	Bake Parkway to Muller	66.5	66.7	66.8	0.3	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	65.5	65.7	65.8	0.3	1.5	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.4	67.3	67.3	-0.1	1.5	No
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.5	66.4	66.4	-0.1	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	66.0	66.0	0.0	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	58.1	58.1	0.0	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	68.6	68.8	68.8	0.2	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.2	68.5	68.5	0.3	1.5	No
415	Rockfield Avenue	Whatney to McLaren	67.5	67.7	67.8	0.3	1.5	No
416	Rockfield Avenue	Bake Parkway to Whatney	63.8	64.3	64.4	0.6	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.6	63.1	63.2	0.6	3.0	No
418	Roosevelt	Jeffrey Road to Vision	66.1	66.6	66.7	0.6	1.5	No
419	Roosevelt	Yale Avenue to Van Buren	68.1	68.3	68.3	0.2	1.5	No
420	Roosevelt	Vision to Bay Tree	65.9	66.3	66.5	0.6	1.5	No
421	Roosevelt	Nimitz to Jeffrey Road	65.8	65.9	65.9	0.1	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.6	65.6	65.7	0.1	1.5	No
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	64.0	64.0	0.0	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	71.9	72.2	72.2	0.3	1.5	No
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	71.6	72.0	72.0	0.4	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.4	74.7	74.7	0.3	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.6	72.7	72.8	0.2	1.5	No
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.6	74.6	74.8	0.2	1.5	No
429	Sand Canyon Avenue	Trabuco Road to Towngate	71.3	71.0	71.2	-0.1	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	70.6	70.9	71.0	0.4	1.5	No
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	73.8	73.9	74.0	0.2	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.4	70.8	70.9	0.5	1.5	No
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.4	73.5	73.6	0.2	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.4	73.6	73.6	0.2	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.5	73.5	73.6	0.1	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.6	70.3	70.6	0.0	1.5	No
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.0	70.2	70.3	0.3	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	69.3	69.2	70.3	1.0	1.5	No

439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	72.8	72.8	0.0	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.5	70.8	70.9	0.4	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.6	71.8	71.8	0.2	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.9	55.0	55.0	0.1	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.8	69.3	69.4	0.6	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.3	67.7	67.8	0.5	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	60.2	59.6	59.5	-0.7	3.0	No
446	Southwood	Yale Avenue to Colt	60.5	60.6	60.6	0.1	3.0	No
447	Southwood	Challenger to Yale Avenue	60.3	60.4	60.4	0.1	3.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.9	62.0	61.9	0.0	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.4	62.5	62.5	0.1	3.0	No
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.0	57.7	57.8	0.8	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	69.9	70.8	70.8	0.9	1.5	No
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	67.1	69.6	69.6	2.5	1.5	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	66.1	69.4	69.4	3.3	1.5	**Yes**
454	Technology Drive	Ada to Alton Parkway	59.9	63.7	63.7	3.8	5.0	No
455	Toledo Way	Bake Parkway to City Limits	65.8	65.6	65.6	-0.2	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.9	64.7	64.7	-0.2	3.0	No
457	Toledo Way	Alton Parkway to Parker	64.5	64.5	64.5	0.0	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.0	67.2	67.3	0.3	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.9	67.1	67.1	0.2	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.6	66.8	66.9	0.3	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.5	66.8	66.9	0.4	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.5	66.7	66.8	0.3	1.5	No
463	Trabuco Road	Yale Avenue to Remington	66.0	66.4	66.5	0.5	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	66.0	66.1	66.2	0.2	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.8	68.7	68.7	-0.1	1.5	No
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.5	67.9	67.9	0.4	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.4	67.8	67.8	0.4	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.8	67.1	67.1	0.3	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	64.0	64.0	0.0	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	64.0	64.1	64.2	0.2	3.0	No
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.4	65.5	65.4	0.0	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.6	73.0	73.1	0.5	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.3	72.6	72.6	0.3	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.5	72.9	72.9	0.4	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.2	72.4	72.4	0.2	1.5	No

476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.4	72.7	72.8	0.4	1.5	No
477	University Drive	Mesa to Campus Drive	74.2	74.5	74.6	0.4	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.2	74.4	74.7	0.5	1.5	No
479	University Drive	California Avenue to Mesa	74.1	74.4	74.5	0.4	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	70.3	70.7	70.8	0.5	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.3	71.6	71.8	0.5	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.0	70.2	70.4	0.4	1.5	No
483	University Drive	San Joaquin to Culver Drive	69.4	69.8	69.9	0.5	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	69.4	69.8	69.9	0.5	1.5	No
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.0	68.1	68.1	0.1	1.5	No
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	67.6	69.6	69.5	1.9	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	65.7	67.1	67.2	1.5	1.5	**Yes**
488	Valley Oak Drive	Alton Parkway to Hawkcreek	65.0	64.9	64.9	-0.1	1.5	No
489	Von Karman Avenue	Marriott to Morse Avenue	70.6	71.0	71.0	0.4	1.5	No
490	Von Karman Avenue	Michelson Drive to Quartz	70.4	70.9	70.9	0.5	1.5	No
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.1	70.8	70.8	0.7	1.5	No
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	69.7	70.4	70.4	0.7	1.5	No
493	Von Karman Avenue	Main Street to Anchor	69.9	70.7	70.7	0.8	1.5	No
494	Von Karman Avenue	Anchor to McGaw Avenue	69.9	70.5	70.6	0.7	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.9	70.3	70.3	0.4	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	69.2	69.6	69.7	0.5	1.5	No
497	Von Karman Avenue	Campus Drive to Martin	69.2	69.5	69.6	0.4	1.5	No
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.2	69.5	69.6	0.4	1.5	No
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	70.5	70.9	71.0	0.5	1.5	No
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.9	69.1	69.2	0.3	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.5	68.8	68.9	0.4	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.4	68.8	68.8	0.4	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.1	68.5	68.6	0.5	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.1	68.5	68.5	0.4	1.5	No
505	Walnut Avenue	Culver Drive to Franciscan Street	68.1	68.4	68.4	0.3	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.6	68.0	68.1	0.5	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.5	67.9	67.9	0.4	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	67.0	67.3	67.3	0.3	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	67.0	67.2	67.2	0.2	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.1	70.2	70.1	0.0	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	68.4	68.6	68.6	0.2	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.8	67.1	67.1	0.3	1.5	No

513	Warner Avenue	Santa Ynez to Culver Drive	65.6	66.2	66.2	0.6	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	65.1	65.8	65.9	0.8	1.5	No
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	64.0	64.0	0.0	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.8	63.9	63.8	0.0	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	63.6	64.0	64.0	0.4	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.9	62.8	62.9	0.0	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	62.1	63.2	63.3	1.2	3.0	No
520	West Yale Loop	Warner Avenue to Stonecreek South	62.4	62.7	62.7	0.3	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	62.4	62.4	0.0	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	62.0	62.6	62.6	0.6	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	62.2	62.4	62.5	0.3	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.6	63.5	63.5	-0.1	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.6	61.6	61.6	0.0	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	68.6	68.6	0.0	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.4	67.3	67.3	-0.1	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.9	71.1	71.2	0.3	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	67.1	67.1	67.1	0.0	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	67.0	66.9	66.8	-0.2	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.8	66.5	66.6	0.8	1.5	No
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.7	65.7	65.8	0.1	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.7	65.7	65.8	0.1	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.6	65.6	65.7	0.1	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.6	65.4	65.4	-0.2	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	65.3	65.1	65.2	-0.1	1.5	No
537	Yale Avenue	Bryan Avenue to Monticello	65.2	65.0	65.0	-0.2	1.5	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.3	64.2	64.2	-0.1	3.0	No
539	Yale Avenue	University Drive to Royce	63.0	63.6	63.5	0.5	3.0	No
540	Yale Court	Arborwood to Portola Parkway	60.3	60.4	60.4	0.1	3.0	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria ?

Table 17: Current General Plan and Cumulative Preferred Plan Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]				Incremental Noise Level Increase Threshold[3]	
			Current GeneraL Plan	Preferred	Cumulative Preferred	Cumulative Increase	Limit	Exceeded?
1	Ada	Barranca Parway to Marine Way	0.0	70.8	70.8	70.8	5.0	**Yes**
2	Ada	Alton Parkway to Barranca PArkway	67.1	69.2	69.2	2.1	1.5	**Yes**
3	Alton Parkway	Enterprise to I-5 NB Off-Ramp	72.6	73.9	73.9	1.3	1.5	No
4	Alton Parkway	I-5 NB Off-Ramp to Technology Drive West	73.3	74.5	74.5	1.2	1.5	No
5	Alton Parkway	East Yale Loop to Jeffrey Road	71.5	71.8	71.8	0.3	1.5	No
6	Alton Parkway	Gateway Boulevard to Enterprise	70.5	71.7	71.7	1.2	1.5	No
7	Alton Parkway	Jeffrey Road to Royal Oak	70.4	70.7	70.8	0.4	1.5	No
8	Alton Parkway	Daimler Street to Red Hill Avenue	70.4	70.6	70.6	0.2	1.5	No
9	Alton Parkway	Culver Drive to West Yale Loop	70.5	70.6	70.6	0.1	1.5	No
10	Alton Parkway	West Yale Loop to Lake Road	70.5	70.6	70.6	0.1	1.5	No
11	Alton Parkway	Technology Drive West to Ada	71.4	72.4	72.4	1.0	1.5	No
12	Alton Parkway	Creek Road to East Yale Loop	70.3	70.5	70.6	0.3	1.5	No
13	Alton Parkway	Red Hill Avenue to Von Karman Avenue	69.9	70.4	70.5	0.6	1.5	No
14	Alton Parkway	Lake Road to Creek Road	70.3	70.3	70.3	0.0	1.5	No
15	Alton Parkway	Telemetry to Banting	69.8	70.3	70.4	0.6	1.5	No
16	Alton Parkway	Irvine Boulevard to Commercentre	71.0	70.8	70.9	-0.1	1.5	No
17	Alton Parkway	Jenner to Telemetry	69.7	70.3	70.3	0.6	1.5	No
18	Alton Parkway	Irvine Center Drive to Gateway Boulevard	69.8	71.0	71.0	1.2	1.5	No
19	Alton Parkway	Sand Canyon Avenue to Hospital	73.6	73.7	73.7	0.1	1.5	No
20	Alton Parkway	Laguna Canyon Road to Jenner	69.7	70.2	70.2	0.5	1.5	No
21	Alton Parkway	Technology Drive East to Barranca Pkwy/Muirlands Blvd	70.4	70.8	70.8	0.4	1.5	No
22	Alton Parkway	Royal Oak to Valley Oak Drive	69.7	70.0	70.0	0.3	1.5	No
23	Alton Parkway	Banting to Pacifica	69.3	69.9	69.9	0.6	1.5	No
24	Alton Parkway	Barranca Pkwy/Muirlands Blvd to Jeronimo Road	70.3	70.3	70.3	0.0	1.5	No
25	Alton Parkway	Ada to Technology Drive East	70.2	70.3	70.3	0.1	1.5	No
26	Alton Parkway	Von Karman Avenue to Jamboree Road	69.2	69.6	69.7	0.5	1.5	No
27	Alton Parkway	Jeronimo Road to Hughes	69.9	70.0	70.0	0.1	1.5	No
28	Alton Parkway	Hughes to Morgan	69.7	69.8	69.8	0.1	1.5	No
29	Alton Parkway	Morgan to Toledo Way	69.0	69.0	69.0	0.0	1.5	No
30	Alton Parkway	San Marino to Culver Drive	69.0	69.1	69.1	0.1	1.5	No
31	Alton Parkway	Jamboree Road to Murphy Avenue	68.6	68.9	69.1	0.5	1.5	No

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32	Alton Parkway	Hospital to Laguna Canyon Road	71.5	71.9	72.0	0.5	1.5	No
33	Alton Parkway	Valley Oak Drive to Sand Canyon Avenue	71.4	71.8	71.8	0.4	1.5	No
34	Alton Parkway	Murphy Avenue to Harvard Avenue	68.5	68.7	68.9	0.4	1.5	No
35	Alton Parkway	Foster to Irvine Boulevard	69.0	68.7	68.7	-0.3	1.5	No
36	Alton Parkway	Fairbanks to Foster	68.7	68.4	68.5	-0.2	1.5	No
37	Alton Parkway	Toledo Way to Bertea	68.4	68.4	68.4	0.0	1.5	No
38	Alton Parkway	Pacifica to Meridian	70.7	71.5	71.6	0.9	1.5	No
39	Alton Parkway	Bertea to Fairbanks	68.3	68.3	68.3	0.0	1.5	No
40	Alton Parkway	Meridian to Irvine Center Drive	67.5	68.2	68.2	0.7	1.5	No
41	Alton Parkway	Paseo Westpark to San Marino	68.0	68.1	68.2	0.2	1.5	No
42	Alton Parkway	Harvard Avenue to Paseo Westpark	67.1	67.5	67.7	0.6	1.5	No
43	Astor	Lynx to Fairbanks	66.9	67.0	67.0	0.1	1.5	No
44	Astor	Cadence to Lynx	66.0	65.8	65.8	-0.2	1.5	No
45	Bake Parkway	I-5 NB Off-Ramp to Rockfield Boulevard	76.4	76.6	76.6	0.2	1.5	No
46	Bake Parkway	Muirlands Boulevard to Jeronimo Road	72.9	72.9	72.9	0.0	1.5	No
47	Bake Parkway	Rockfield Boulevard to Muirlands Boulevard	75.1	75.0	75.0	-0.1	1.5	No
48	Bake Parkway	Jeronimo Road to Toledo Way	72.0	72.0	72.0	0.0	1.5	No
49	Bake Parkway	Toledo Way to Cromwell	71.6	71.6	71.7	0.1	1.5	No
50	Bake Parkway	Cromwell to Irvine Boulevard	71.6	71.6	71.6	0.0	1.5	No
51	Bake Parkway	Research Drive to I-5 SB Off-Ramp	69.3	69.5	69.6	0.3	1.5	No
52	Bake Parkway	Irvine Center Drive to Research Drive	64.6	64.8	65.0	0.4	3.0	No
53	Bake Parkway	Lake Forest Drive to Irvine Center Drive	63.0	63.4	63.7	0.7	3.0	No
54	Banting	Alton Parkway to Barranca Parkway	59.3	60.2	60.1	0.8	5.0	No
55	Barranca Parkway	Pacifica to Irvine Center Drive	71.7	73.1	73.1	1.4	1.5	No
56	Barranca Parkway	Banting to Pacifica	71.8	72.7	72.7	0.9	1.5	No
57	Barranca Parkway	I-5 HOV Ramp to Technology Drive West	70.9	72.6	72.7	1.8	1.5	**Yes**
58	Barranca Parkway	Technology Drive West to Ada	71.5	72.6	72.6	1.1	1.5	No
59	Barranca Parkway	Irvine Center Drive to I-5 HOV Ramp	70.8	72.3	72.4	1.6	1.5	**Yes**
60	Barranca Parkway	Culver Drive to West Yale Loop	72.0	72.2	72.2	0.2	1.5	No
61	Barranca Parkway	East Yale Loop to Jeffrey Road	71.7	72.1	72.1	0.4	1.5	No
62	Barranca Parkway	West Yale Loop to Lake Road	71.8	72.0	72.0	0.2	1.5	No
63	Barranca Parkway	Ada to Alton Parkway	72.3	72.0	72.0	-0.3	1.5	No
64	Barranca Parkway	Lake Road to Creek Road	71.4	71.7	71.7	0.3	1.5	No
65	Barranca Parkway	Red Hill Avenue to Armstrong Avenue	74.4	74.7	74.7	0.3	1.5	No
66	Barranca Parkway	Discovery/Herchel to Banting	71.1	71.6	71.6	0.5	1.5	No
67	Barranca Parkway	Lyon to East Yale Loop	71.1	71.5	71.5	0.4	1.5	No
68	Barranca Parkway	Creek Road to Lyon	71.1	71.4	71.4	0.3	1.5	No

69	Barranca Parkway	Von Karman Avenue to Jamboree Road	72.4	72.7	72.7	0.3	1.5	No
70	Barranca Parkway	Sand Canyon Avenue to Laguna Canyon Road	70.6	70.8	70.8	0.2	1.5	No
71	Barranca Parkway	Armstrong Avenue to Von Karman Avenue	72.1	72.3	72.4	0.3	1.5	No
72	Barranca Parkway	Valley Oak Drive to Sand Canyon Avenue	70.4	70.6	70.7	0.3	1.5	No
73	Barranca Parkway	Jamboree Road to Construction Circle	70.7	71.0	71.1	0.4	1.5	No
74	Barranca Parkway	Santa Rosa to Culver Drive	70.6	70.9	71.0	0.4	1.5	No
75	Barranca Parkway	FedEx to Discovery/Herchel	69.6	70.2	70.3	0.7	1.5	No
76	Barranca Parkway	Jeffrey Road to Valley Oak Drive	69.7	70.2	70.3	0.6	1.5	No
77	Barranca Parkway	Laguna Canyon Road to FedEx	69.4	70.1	70.1	0.7	1.5	No
78	Barranca Parkway	Pullman Street to Red Hill Avenue	73.4	73.6	73.6	0.2	1.5	No
79	Barranca Parkway	Construction Circle to Fire Station	70.1	70.5	70.5	0.4	1.5	No
80	Barranca Parkway	Fire Station to Harvard Avenue	70.1	70.5	70.5	0.4	1.5	No
81	Barranca Parkway	Paseo Westpark to Santa Rosa	70.1	70.4	70.5	0.4	1.5	No
82	Barranca Parkway	Harvard Avenue to Paseo Westpark	69.7	70.1	70.2	0.5	1.5	No
83	Bay Tree	Trabuco Road to Roosevelt	57.2	57.2	57.2	0.0	5.0	No
84	Beacon	Ridge Valley to Benchmark	59.0	59.6	59.7	0.7	5.0	No
85	Benchmark (LN Street)	Ridge Valley (O Street) to Bosque	56.7	56.5	56.5	-0.2	5.0	No
86	Bison Avenue	SR-73 NB Off-Ramp to California Avenue	69.7	69.6	69.7	0.0	1.5	No
87	Bonita Canyon Drive	MacArthur Boulevard to SR-73	70.2	70.3	70.3	0.1	1.5	No
88	Bonita Canyon Drive	Turtle Ridge to Shady Canyon Drive	68.5	68.6	68.6	0.1	1.5	No
89	Bonita Canyon Drive	Newport Coast Drive to Turtle Ridge	68.2	68.2	68.2	0.0	1.5	No
90	Bonita Canyon Drive	SR-73 NB Off-Ramp to Newport Coast Drive	67.9	68.0	68.0	0.1	1.5	No
91	Bosque	Cadence to Great Park Boulevard	64.8	65.2	65.2	0.4	3.0	No
92	Bosque	Irvine Boulevard to Benchmark (LN Street)	63.0	63.5	63.5	0.5	3.0	No
93	Bosque	Benchmark to Cadence	63.0	63.1	63.1	0.1	3.0	No
94	Bosque	Great Park Boulevard to Beacon	56.9	56.7	56.7	-0.2	5.0	No
95	Bosque	Beacon to S 5th Street	55.9	56.1	56.1	0.2	5.0	No
96	Bryan Avenue	Jamboree Road to Market Place	68.9	68.9	69.0	0.1	1.5	No
97	Bryan Avenue	Market Place to El Camino Real	68.9	68.9	68.9	0.0	1.5	No
98	Bryan Avenue	Rubicon to Culver Drive	68.9	68.9	68.9	0.0	1.5	No
99	Bryan Avenue	El Camino Real to Rubicon	68.9	68.8	68.9	0.0	1.5	No
100	Bryan Avenue	Eastwood to Jeffrey Road	66.3	66.9	67.0	0.7	1.5	No
101	Bryan Avenue	Westwood to Yale Avenue	66.3	66.6	66.7	0.4	1.5	No
102	Bryan Avenue	Culver Drive to Westwood	66.4	66.6	66.6	0.2	1.5	No
103	Bryan Avenue	Yale Avenue to Eastwood	66.0	66.4	66.5	0.5	1.5	No
104	Cadence	Pusan to Chinon	64.1	65.6	65.6	1.5	3.0	No
105	Cadence	Bosque to Pusan	64.2	65.3	65.3	1.1	3.0	No

106	Cadence	Ridge Valley (O Street) to Bosque	64.0	63.9	63.9	-0.1	3.0	No
107	Cadence	Chinon to Merit	59.1	62.2	62.2	3.1	5.0	No
108	Cadence	Merit to Astor	58.6	59.4	59.4	0.8	5.0	No
109	California Avenue	University Drive to Academy Way	66.2	66.2	67.2	1.0	1.5	No
110	California Avenue	Campus Drive to Harvard Avenue	64.1	64.2	64.2	0.1	3.0	No
111	California Avenue	Theory to Bison Avenue	64.0	63.9	64.0	0.0	3.0	No
112	Campus Drive	Carlson Avenue to University Drive	73.0	73.2	73.3	0.3	1.5	No
113	Campus Drive	University Drive to Bridge Road	71.7	71.8	71.7	0.0	1.5	No
114	Campus Drive	Jamboree Road to Carlson Avenue	71.3	71.5	71.5	0.2	1.5	No
115	Campus Drive	Stanford Court to Berkeley Avenue	71.0	71.1	71.0	0.0	1.5	No
116	Campus Drive	California Avenue to Culver Drive	70.9	70.9	70.9	0.0	1.5	No
117	Campus Drive	Berkeley Avenue to Cornell	69.9	70.0	69.9	0.0	1.5	No
118	Campus Drive	Martin to Von Karman Avenue	68.7	69.0	69.1	0.4	1.5	No
119	Campus Drive	Culver Drive to Paseo Montoya (Turtle Rock Drive)	68.6	68.7	68.7	0.1	1.5	No
120	Campus Drive	Von Karman Avenue to Teller Avenue	68.1	68.3	68.5	0.4	1.5	No
121	Campus Drive	MacArthur Boulevard to Martin	68.1	68.2	68.3	0.2	1.5	No
122	Campus Drive	Teller Avenue to Jamboree Road	67.2	67.5	67.5	0.3	1.5	No
123	Carlson Avenue	Michelson Drive to Campus Drive	67.8	67.9	67.9	0.1	1.5	No
124	Chinon	Irvine Boulevard to Cadence	58.3	59.0	59.0	0.7	5.0	No
125	Creek Road	Alton Parkway to Barranca Parkway	56.0	56.1	56.2	0.2	5.0	No
126	Culver Drive	Michelson Drive to I-405 SB Off-Ramp	73.7	73.9	73.9	0.2	1.5	No
127	Culver Drive	I-405 SB Off-Ramp to I-405 NB Off Ramp	73.9	73.8	73.8	-0.1	1.5	No
128	Culver Drive	I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)	73.9	73.9	73.9	0.0	1.5	No
129	Culver Drive	Scottsdale Drive to I-5 SB Off- Ramp	73.9	73.9	73.9	0.0	1.5	No
130	Culver Drive	I-405 NB Off-Ramp to San Leandro	73.6	73.6	73.6	0.0	1.5	No
131	Culver Drive	San Leandro to Main Street	73.3	73.3	73.3	0.0	1.5	No
132	Culver Drive	Harvard Avenue to University Drive	73.3	73.3	73.3	0.0	1.5	No
133	Culver Drive	Trabuco Road to Farwell Avenue	74.4	74.3	74.2	-0.2	1.5	No
134	Culver Drive	Alton Parkway to Barranca Parkway	73.2	73.2	73.2	0.0	1.5	No
135	Culver Drive	Main Street to Alton Parkway	73.1	73.1	73.1	0.0	1.5	No
136	Culver Drive	Warner Avenue to Irvine Center Drive	73.0	73.0	73.0	0.0	1.5	No
137	Culver Drive	Walnut Avenue to Scottsdale Dive	72.9	72.9	72.9	0.0	1.5	No
138	Culver Drive	Barranca Parkway to Warner Avenue	72.8	72.8	72.9	0.1	1.5	No
139	Culver Drive	Shady Canyon Drive to Palo Verde	72.1	72.0	72.0	-0.1	1.5	No
140	Culver Drive	Deerfield Avenue to Walnut Avenue	72.6	72.5	72.5	-0.1	1.5	No
141	Culver Drive	Sandburg Way to Michelson Drive	72.5	72.5	72.5	0.0	1.5	No
142	Culver Drive	Irvine Center Drive to Deerfield Avenue	72.4	72.4	72.4	0.0	1.5	No

143	Culver Drive	Palo Verde to Campus Drive	71.6	71.6	71.6	0.0	1.5	No
144	Culver Drive	University Drive to Sandburg Way	72.2	72.2	72.2	0.0	1.5	No
145	Culver Drive	Farwell Avenue to Bryan Avenue	73.3	73.2	73.2	-0.1	1.5	No
146	Culver Drive	Campus Drive to High School	72.1	72.1	72.1	0.0	1.5	No
147	Culver Drive	High School to Harvard Avenue	72.0	72.0	72.0	0.0	1.5	No
148	Culver Drive	Bryan Avenue to Florence	71.8	71.8	71.8	0.0	1.5	No
149	Culver Drive	Portola Parkway to Settlers	71.1	71.1	71.2	0.1	1.5	No
150	Culver Drive	Florence to Irvine Boulevard	71.7	71.7	71.7	0.0	1.5	No
151	Culver Drive	Irvine Boulevard to Viewpark	70.5	70.5	70.5	0.0	1.5	No
152	Culver Drive	Viewpark to Meadowood	70.5	70.4	70.4	-0.1	1.5	No
153	Culver Drive	Settlers to Furrow	68.3	68.4	68.5	0.2	1.5	No
154	Culver Drive	Meadowood to Portola Parkway	69.0	69.0	69.0	0.0	1.5	No
155	Discovery Drive	Irvine Center Drive to Laguna Canyon Road	63.8	64.0	64.0	0.2	3.0	No
156	Discovery Drive	Waterworks Way to Irvine Center Drive	60.7	61.2	61.2	0.5	3.0	No
157	East Yale Loop	Alton Parkway to Witherspoon	65.3	65.5	65.5	0.2	1.5	No
158	East Yale Loop	Osborn Street to Barranca Parkway	65.0	65.3	65.3	0.3	1.5	No
159	East Yale Loop	Yale Avenue to Springbrook South	64.3	64.8	64.9	0.6	3.0	No
160	East Yale Loop	Springbrook North to Alton Parkway	63.4	63.5	63.6	0.2	3.0	No
161	East Yale Loop	Woodspring to Yale Avenue	62.5	62.7	62.7	0.2	3.0	No
162	East Yale Loop	Barranca Parkway to Eastshore	62.5	62.4	62.4	-0.1	3.0	No
163	Eastwood	Bryan Avenue to Monticello	60.5	60.8	60.8	0.3	3.0	No
164	Eastwood	Columbus to Bryan Avenue	58.8	58.7	58.8	0.0	5.0	No
165	El Camino Real	Jamboree Road to Alliance (SR-261 Bridge)	67.0	67.1	67.1	0.1	1.5	No
166	El Camino Real North	El Camino Real to Bryan Avenue	62.4	62.4	62.4	0.0	3.0	No
167	Fairbanks	Alton Parkway to Astor	69.7	69.7	69.8	0.1	1.5	No
168	Fairbanks	Irvine Boulevard to Alton Parkway	66.8	66.9	66.9	0.1	1.5	No
169	Fairchild Road	MacArthur Boulevard to Jamboree Road	64.0	64.1	64.0	0.0	3.0	No
170	Gateway Boulevard	Alton Parkway to Irvine Center Drive	62.8	63.3	63.3	0.5	3.0	No
171	Gateway Boulevard	Spectrum Center Drive (Fortune Drive) to Alton Parkway	61.6	62.1	62.1	0.5	3.0	No
172	Gateway Boulevard	Irvine Center Drive to Meridian	58.4	59.1	59.2	0.8	5.0	No
173	Great Park Boulevard	Sand Canyon to Ridge Valley	74.1	74.4	74.5	0.4	1.5	No
174	Great Park Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	69.7	70.2	70.2	0.5	1.5	No
175	Great Park Boulevard (EB)	Bosque to Skyhawk	68.0	68.8	68.9	0.9	1.5	No
176	Great Park Boulevard (WB)	Bosque to Skyhawk	67.6	68.3	68.3	0.7	1.5	No
177	Harvard Avenue	University Drive to Michelson Drive	71.8	72.0	72.0	0.2	1.5	No
178	Harvard Avenue	Michelson Drive to Coronado	70.2	70.4	70.5	0.3	1.5	No
179	Harvard Avenue	San Marino to Alton Parkway	70.0	70.1	70.2	0.2	1.5	No

180	Harvard Avenue	Coronado to Main Street	70.0	70.1	70.2	0.2	1.5	No
181	Harvard Avenue	San Carlo to San Marino	69.9	70.0	70.1	0.2	1.5	No
182	Harvard Avenue	Main Street to San Carlo	69.8	70.0	70.0	0.2	1.5	No
183	Harvard Avenue	Alton Parkway to San Leon	68.8	68.8	68.6	-0.2	1.5	No
184	Harvard Avenue	San Juan to Barranca Parkway	68.6	68.8	68.7	0.1	1.5	No
185	Harvard Avenue	San Leon to San Juan	68.6	68.6	68.6	0.0	1.5	No
186	Harvard Avenue	Irvine Center Drive to Deerfield Avenue	67.4	67.4	67.4	0.0	1.5	No
187	Harvard Avenue	Deerfield Avenue to Poplar Street	67.4	67.3	67.4	0.0	1.5	No
188	Harvard Avenue	Barranca Parkway to Warner Avenue	67.9	67.8	67.9	0.0	1.5	No
189	Harvard Avenue	Bridge Road to University Drive	67.6	67.8	67.8	0.2	1.5	No
190	Harvard Avenue	Paseo Westpark to Irvine Center Drive	67.7	67.8	67.8	0.1	1.5	No
191	Harvard Avenue	Poplar Street to Walnut Avenue	68.7	68.7	68.8	0.1	1.5	No
192	Harvard Avenue	California Avenue to Berkeley Avenue	67.0	67.2	67.2	0.2	1.5	No
193	Harvard Avenue	Culver Drive to California Avenue	66.9	67.2	67.2	0.3	1.5	No
194	Harvard Avenue	Berkeley to Bridge Road	67.0	67.1	67.1	0.1	1.5	No
195	Harvard Avenue	Warner Avenue to Paseo Westpark	66.8	66.8	66.8	0.0	1.5	No
196	Hicks Canyon Drive	Delamesa to Yale Avenue	58.4	58.2	58.2	-0.2	5.0	No
197	Hornet (5th St)	Ridge Valley (O Street) to Bosque	57.5	57.5	57.6	0.1	5.0	No
198	Hubble	Irvine Center Drive to Bunsen	55.7	55.9	56.1	0.4	5.0	No
199	Irvine Boulevard	SR-133 NB Off- Ramp to Ridge Valley (O Street)	72.3	72.3	72.3	0.0	1.5	No
200	Irvine Boulevard	SR-133 SB Off-Ramp to SR-133 NB Off-Ramp	72.2	72.2	72.1	-0.1	1.5	No
201	Irvine Boulevard	Sand Canyon to SR-133 SB Off-Ramp	73.1	73.1	73.1	0.0	1.5	No
202	Irvine Boulevard	Merit to Alton	71.6	71.6	71.6	0.0	1.5	No
203	Irvine Boulevard	Journey to Sand Canyon Avenue	71.6	71.6	71.7	0.1	1.5	No
204	Irvine Boulevard	Ridge Valley (O Street) to Bosque (LY Street)	71.2	71.2	71.1	-0.1	1.5	No
205	Irvine Boulevard	Pusan Way to Chinon (B Street)	71.0	71.0	71.0	0.0	1.5	No
206	Irvine Boulevard	Palo Lado to Yale Avenue	70.6	71.1	71.2	0.6	1.5	No
207	Irvine Boulevard	Culver Drive to Palo Lado	70.6	71.0	71.1	0.5	1.5	No
208	Irvine Boulevard	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.6	70.9	71.0	0.4	1.5	No
209	Irvine Boulevard	Old Myford Road to Market Place	70.5	71.0	71.0	0.5	1.5	No
210	Irvine Boulevard	Bosque (LY Street) to Modjeska	70.7	70.9	71.0	0.3	1.5	No
211	Irvine Boulevard	Jamboree Road to Old Myford Road	70.5	70.9	70.9	0.4	1.5	No
212	Irvine Boulevard	Market Place to SR-261 SB Off-Ramp	70.4	70.9	70.9	0.5	1.5	No
213	Irvine Boulevard	Jeffrey Road to Groveland	70.8	70.8	71.0	0.2	1.5	No
214	Irvine Boulevard	Bake Parkway to Lake Forest Drive	70.9	70.6	70.7	-0.2	1.5	No
215	Irvine Boulevard	Independence Way (The Groves)/ The Groves to Jeffrey Road	70.5	70.6	70.6	0.1	1.5	No
216	Irvine Boulevard	Chinon (B Street) to Merit	70.5	70.5	70.5	0.0	1.5	No

217	Irvine Boulevard	SR-261 NB Off-Ramp to Central Park	70.2	70.5	70.5	0.3	1.5	No
218	Irvine Boulevard	Pueblo Norte to Independence Way (The Groves)/ Parkwood	70.1	70.3	70.4	0.3	1.5	No
219	Irvine Boulevard	Yale Avenue to Pueblo Norte	70.1	70.3	70.4	0.3	1.5	No
220	Irvine Boulevard	Modjeska to Pusan Way	70.2	70.2	70.2	0.0	1.5	No
221	Irvine Boulevard	Central Park Avenue to Culver Drive	69.6	69.9	69.9	0.3	1.5	No
222	Irvine Boulevard	Parker to Bake Parkway	69.6	69.5	69.7	0.1	1.5	No
223	Irvine Boulevard	Alton Parkway to Fairbanks	68.6	68.6	68.6	0.0	1.5	No
224	Irvine Center Drive	Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp	72.5	72.6	72.7	0.2	1.5	No
225	Irvine Center Drive	Orange Tree to Valley Oak Drive	71.4	71.8	71.9	0.5	1.5	No
226	Irvine Center Drive	I-405 SB Off-Ramp to Research	72.1	72.1	72.3	0.2	1.5	No
227	Irvine Center Drive	Irvine Valley College to Orange Tree	71.3	71.7	71.8	0.5	1.5	No
228	Irvine Center Drive	Fontaine Avenue to Jeffrey Road	71.0	71.5	71.5	0.5	1.5	No
229	Irvine Center Drive	Culver Drive to Deerwood	71.0	71.4	71.5	0.5	1.5	No
230	Irvine Center Drive	Deerwood to Yale Avenue	71.0	71.4	71.4	0.4	1.5	No
231	Irvine Center Drive	Yale Avenue to Fontaine Avenue	70.9	71.4	71.5	0.6	1.5	No
232	Irvine Center Drive	Jeffrey Road to Irvine Valley College	71.1	71.3	71.4	0.3	1.5	No
233	Irvine Center Drive	Alton Parkway to Spectrum	70.4	71.0	71.1	0.7	1.5	No
234	Irvine Center Drive	Spectrum to Pacifica	70.3	71.0	71.0	0.7	1.5	No
235	Irvine Center Drive	Hearthstone to Culver Drive	70.6	70.9	70.9	0.3	1.5	No
236	Irvine Center Drive	Charter to Barranca Parkway	70.2	70.6	70.7	0.5	1.5	No
237	Irvine Center Drive	Jamboree Road to Harvard Avenue	70.3	70.5	70.5	0.2	1.5	No
238	Irvine Center Drive	Pacifica to Entertainment (Enterprise/Fortune)	70.3	70.5	70.6	0.3	1.5	No
239	Irvine Center Drive	Valley Oak Drive to Sand Canyon Avenue	70.0	70.5	70.5	0.5	1.5	No
240	Irvine Center Drive	Harvard Avenue to Hearthstone	70.0	70.2	70.2	0.2	1.5	No
241	Irvine Center Drive	Research to Hubble	69.8	69.7	70.0	0.2	1.5	No
242	Irvine Center Drive	Barranca Parkway to Gateway Boulevard	69.4	69.8	69.9	0.5	1.5	No
243	Irvine Center Drive	Bake Parkway to Muller	69.9	69.7	69.9	0.0	1.5	No
244	Irvine Center Drive	Discovery to Charter	69.3	69.8	69.9	0.6	1.5	No
245	Irvine Center Drive	Hubble to Bake Parkway	69.7	69.5	69.6	-0.1	1.5	No
246	Irvine Center Drive	Muller to Tesla	69.5	69.3	69.4	-0.1	1.5	No
247	Irvine Center Drive	Sand Canyon Avenue to Odyssey	69.0	69.2	69.2	0.2	1.5	No
248	Irvine Center Drive	Tesla to Scientific Way	69.2	68.9	69.1	-0.1	1.5	No
249	Irvine Center Drive	Scientific Way to Lake Forest Drive	68.9	68.7	68.9	0.0	1.5	No
250	Irvine Center Drive	Gateway Boulevard to Alton Parkway	68.3	68.6	68.7	0.4	1.5	No
251	Irvine Center Drive	Laguna Canyon Road to Discovery	68.2	68.6	68.7	0.5	1.5	No
252	Irvine Center Drive	Odyssey to Laguna Canyon Road	68.3	68.5	68.6	0.3	1.5	No
253	Irvine Center Drive (Edinger)	Redhill Avenue to Jamboree Road	70.8	70.9	70.9	0.1	1.5	No

254	Jamboree Road	I-5 SB Off-Ramp to I-5 NB Off-Ramp	74.5	74.5	74.5	0.0	1.5	No
255	Jamboree Road	I-405 SB Off-Ramp to I-405 NB Off Ramp	75.4	75.6	75.6	0.2	1.5	No
256	Jamboree Road	Walnut Avenue to Michelle Drive	73.8	73.9	73.9	0.1	1.5	No
257	Jamboree Road	I-405 NB Off-Ramp to Main Street	76.9	77.0	77.0	0.1	1.5	No
258	Jamboree Road	Michelle Drive to I-5 SB Off-Ramp	73.6	73.6	73.7	0.1	1.5	No
259	Jamboree Road	Main Street to Kelvin Avenue	76.2	76.3	76.4	0.2	1.5	No
260	Jamboree Road	Michelson Drive to I-405 SB Off-Ramp	74.2	74.3	74.3	0.1	1.5	No
261	Jamboree Road	Kelvin Avenue to McGaw Avenue	75.8	76.0	76.0	0.2	1.5	No
262	Jamboree Road	McGaw Avenue to Alton Parkway	75.8	75.9	76.0	0.2	1.5	No
263	Jamboree Road	Birch Street to Campus Drive	72.6	72.9	73.0	0.4	1.5	No
264	Jamboree Road	Dupont Drive to Michelson Drive	73.5	73.8	73.9	0.4	1.5	No
265	Jamboree Road	Alton Parkway to Beckman	75.4	75.5	75.6	0.2	1.5	No
266	Jamboree Road	Fairchild Road to Birch Street	73.2	73.4	73.5	0.3	1.5	No
267	Jamboree Road	Beckman to Barranca Parkway	75.2	75.2	75.3	0.1	1.5	No
268	Jamboree Road	I-5 NB Off-Ramp to El Camino Real	75.1	75.1	75.1	0.0	1.5	No
269	Jamboree Road	Campus Drive to Dupont Drive	72.7	73.1	73.1	0.4	1.5	No
270	Jamboree Road	El Camino Real to West Drive	75.1	75.0	74.9	-0.2	1.5	No
271	Jamboree Road	West Drive to Bryan Avenue	75.1	75.0	75.0	-0.1	1.5	No
272	Jamboree Road	Bryan Avenue to Irvine Boulevard	74.8	74.7	74.6	-0.2	1.5	No
273	Jamboree Road	Koll Center to Fairchild Road	72.5	72.7	72.7	0.2	1.5	No
274	Jamboree Road	MacArthur Boulevard to Koll Center	72.5	72.6	72.7	0.2	1.5	No
275	Jamboree Road	Irvine Boulevard to Portola Pakway	70.8	70.7	70.7	-0.1	1.5	No
276	Jamboree Road	Warner Avenue to Edinger Avenue	79.1	79.1	79.1	0.0	1.5	No
277	Jamboree Road	Barranca Parkway to Warner Avenue	78.2	78.3	78.3	0.1	1.5	No
278	Jamboree Road	Edinger Avenue to Walnut Avenue	77.9	78.0	78.0	0.1	1.5	No
279	Jeffrey Road	Walnut Avenue to I-5 NB Off-Ramp	71.3	71.3	71.4	0.1	1.5	No
280	Jeffrey Road	I-5 NB Off-Ramp to Roosevelt	72.2	72.2	72.3	0.1	1.5	No
281	Jeffrey Road	Poplar (Meadows) to Walnut Avenue	70.8	70.9	70.9	0.1	1.5	No
282	Jeffrey Road	Alton Parkway to Barranca Parkway	70.5	70.8	70.8	0.3	1.5	No
283	Jeffrey Road	Irvine Center Drive to Poplar (Meadows)	70.6	70.7	70.7	0.1	1.5	No
284	Jeffrey Road	I-405 NB Off-Ramp to Quail Creek	70.5	70.7	70.8	0.3	1.5	No
285	Jeffrey Road	Barranca Parkway to Irvine Valley College	70.4	70.6	70.6	0.2	1.5	No
286	Jeffrey Road	Quail Creek to Alton Parkway	70.5	70.6	70.7	0.2	1.5	No
287	Jeffrey Road	Irvine Valley College to Irvine Center Drive	70.3	70.4	70.4	0.1	1.5	No
288	Jeffrey Road	Trabuco Road to Hideaway	69.7	69.6	69.7	0.0	1.5	No
289	Jeffrey Road	Hideaway to Bryan Avenue	69.7	69.6	69.7	0.0	1.5	No
290	Jeffrey Road	Roosevelt to Grove	70.4	70.4	70.4	0.0	1.5	No

291	Jeffrey Road	Grove to Trabuco Road	70.3	70.2	70.2	-0.1	1.5	No
292	Jeffrey Road	Bryan Avenue to Irvine Boulevard	68.5	68.5	68.5	0.0	1.5	No
293	Jeffrey Road	Encore to Portola Parkway	66.1	65.8	65.6	-0.5	1.5	No
294	Jeffrey Road	Irvine Boulevard to Encore	65.6	65.5	65.4	-0.2	1.5	No
295	Jeronimo Road	Goodyear to Bake Parkway	64.8	64.6	64.5	-0.3	3.0	No
296	Jeronimo Road	Alton Parkway to Goodyear	64.7	64.3	64.3	-0.4	3.0	No
297	Laguna Canyon Road	Old Laguna Canyon Road to Lake Forest Drive	73.3	73.3	73.4	0.1	1.5	No
298	Laguna Canyon Road	Laguna Canyon Freeway to Quail Hill Parkway	70.0	69.9	70.0	0.0	1.5	No
299	Laguna Canyon Road	Discovery to Sand Canyon Avenue	68.1	69.1	69.1	1.0	1.5	No
300	Laguna Canyon Road	I-405 Overcrossing to Pasteur	68.0	67.9	68.0	0.0	1.5	No
301	Laguna Canyon Road	Irvine Center Drive to Discovery	67.3	67.5	67.5	0.2	1.5	No
302	Laguna Canyon Road	Quail Hill Parkway to I-405 Overcrossing	68.0	67.9	68.0	0.0	1.5	No
303	Laguna Canyon Road	Pasteur to Alton Parkway	66.9	66.9	67.0	0.1	1.5	No
304	Laguna Canyon Road	Waterworks to Irvine Center Drive	66.2	66.4	66.4	0.2	1.5	No
305	Laguna Canyon Road	Alton Parkway to Barranca Parkway	66.0	66.1	66.1	0.1	1.5	No
306	Laguna Canyon Road	Barranca Parkway to Waterworks	65.6	65.6	65.6	0.0	1.5	No
307	Lake Forest Drive	Hidden Canyon to Laguna Canyon Road	69.2	69.3	69.5	0.3	1.5	No
308	Lake Forest Drive	Bake Parkway to Hidden Canyon (Romano)	69.2	69.3	69.5	0.3	1.5	No
309	Lake Forest Drive	Tesla to Bake Parkway	66.2	66.3	66.6	0.4	1.5	No
310	Lake Road	Alton Parkway to Barranca Parkway	59.2	59.2	59.2	0.0	5.0	No
311	Lynx	Irvine Boulevard to Astor	53.5	53.2	53.2	-0.3	5.0	No
312	MacArthur Boulevard	I-405 SB Off-Ramp to Michelson Drive	76.4	76.7	76.7	0.3	1.5	No
313	MacArthur Boulevard	Main Street to I-405 NB Off-Ramp	76.5	76.6	76.7	0.2	1.5	No
314	MacArthur Boulevard	I-405 NB Off-Ramp and I-405 SB Off-Ramp	76.4	76.6	76.6	0.2	1.5	No
315	MacArthur Boulevard	Jamboree Road to Fairchild Road	69.9	69.9	69.9	0.0	1.5	No
316	MacArthur Boulevard	Fairchild Road to University Drive	69.8	69.9	69.8	0.0	1.5	No
317	MacArthur Boulevard	Fitch to Red Hill Avenue	70.5	70.5	70.5	0.0	1.5	No
318	MacArthur Boulevard	Michelson Drive to Douglas	71.8	72.1	72.2	0.4	1.5	No
319	MacArthur Boulevard	Douglas to Campus Drive	71.9	72.1	72.2	0.3	1.5	No
320	MacArthur Boulevard	Skypark to Main Street	69.6	69.5	69.5	-0.1	1.5	No
321	MacArthur Boulevard	Redhill Avenue to Skypark	68.5	68.3	68.4	-0.1	1.5	No
322	MacArthur Boulevard	Birch Street to Jamboree Road	66.8	67.0	67.1	0.3	1.5	No
323	MacArthur Boulevard	Campus Drive to Birch Street	69.1	69.3	69.4	0.3	1.5	No
324	Main Street	Gillette Avenue to Von Karman Avenue	70.2	70.7	70.8	0.6	1.5	No
325	Main Street	MacArthur Boulevard to Mercantile	69.9	70.2	70.3	0.4	1.5	No
326	Main Street	Executive Park to MacArthur Boulevard	68.2	68.4	68.4	0.2	1.5	No
327	Main Street	Von Karman Avenue to Cartwright	67.8	68.3	68.4	0.6	1.5	No

328	Main Street	McDurmott to Red Hill Avenue	68.0	68.1	68.1	0.1	1.5	No
329	Main Street	Red Hill Avenue to Executive Circle	67.9	68.0	68.0	0.1	1.5	No
330	Main Street	Jamboree Road to Union	67.7	67.8	67.8	0.1	1.5	No
331	Main Street	Culver Drive to West Yale Loop	67.2	67.1	67.2	0.0	1.5	No
332	Main Street	Siglo to Jamboree Road	67.4	67.7	67.7	0.3	1.5	No
333	Main Street	Veneto to Harvard Avenue	67.6	67.5	67.5	-0.1	1.5	No
334	Main Street	Paseo Westpark to Culver Drive	66.4	66.4	66.3	-0.1	1.5	No
335	Main Street	Harvard Avenue to San Mateo	66.3	66.4	66.3	0.0	1.5	No
336	Marine Way	Sand Canyon Avenue to Ridge Valley (O Street)	72.1	72.3	72.3	0.2	1.5	No
337	Marine Way	Alton Parkway to Bake Parkway	69.0	69.3	69.3	0.3	1.5	No
338	Marine Way	Lynx to Barranca Parkway	69.4	69.3	69.3	-0.1	1.5	No
339	Marine Way	County Access to Treble	65.3	68.4	68.4	3.1	1.5	**Yes**
340	Marine Way	Ridge Valley (O Street) to Skyhawk	67.6	68.2	68.2	0.6	1.5	No
341	Marine Way	Skyhawk to County Access	64.9	67.1	67.2	2.3	3.0	No
342	Marine Way	Barranca Parkway to Alton Parkway	66.3	66.8	66.8	0.5	1.5	No
343	Marine Way	Treble to Lynx	67.1	66.4	66.4	-0.7	1.5	No
344	McGaw Avenue	Von Karman Avenue to Jamboree Road	63.6	64.3	64.3	0.7	3.0	No
345	McGaw Avenue	Red Hill Avenue to Von Karman Avenue	63.6	64.1	64.2	0.6	3.0	No
346	McGaw Avenue	Daimler to Red Hill Avenue	62.4	62.4	62.5	0.1	3.0	No
347	McGaw Avenue	Jamboree Road to Murphy Avenue	59.2	59.3	59.4	0.2	5.0	No
348	Meadowood	Culver Drive to Canyonwood	59.8	59.8	59.8	0.0	5.0	No
349	Meridian	Spectrum to Alton Parkway	54.9	55.3	55.5	0.6	5.0	No
350	Meridian	Alton Parkway to Gateway Boulevard	54.1	54.6	54.7	0.6	5.0	No
351	Merit	Irvine Boulevard to Cadence	57.3	57.9	58.0	0.7	5.0	No
352	Michelson Drive	Riparian to Harvard Avenue	67.8	68.3	68.3	0.5	1.5	No
353	Michelson Drive	Almond Tree Lane to Yale Avenue	66.7	67.1	67.1	0.4	1.5	No
354	Michelson Drive	Von Karman Avenue to Obsidian	67.8	68.0	68.0	0.2	1.5	No
355	Michelson Drive	Parkside to Culver Drive	66.8	67.8	67.8	1.0	1.5	No
356	Michelson Drive	Gillman to Seton/Sandburg Way	66.5	66.8	66.8	0.3	1.5	No
357	Michelson Drive	Carlson to Prince	67.0	67.3	67.3	0.3	1.5	No
358	Michelson Drive	MacArthur Boulevard to Dupont Drive	67.0	67.3	67.3	0.3	1.5	No
359	Michelson Drive	Harvard Avenue to Parkside	66.8	66.8	66.8	0.0	1.5	No
360	Michelson Drive	Bixby to Von Karman Avenue	66.3	66.7	66.7	0.4	1.5	No
361	Michelson Drive	Jamboree Road to Carlson	69.5	69.6	69.6	0.1	1.5	No
362	Michelson Drive	Teller to Jamboree Road	69.5	69.6	69.6	0.1	1.5	No
363	Michelson Drive	Jordan East to University Drive	66.8	66.9	66.9	0.1	1.5	No
364	Michelson Drive	Culver Drive to Angell	66.1	66.2	66.2	0.1	1.5	No

365	Modjeska (A Street)	Portola Springs to Irvine Boulevard	71.7	71.7	71.7	0.0	1.5	No
366	Modjeska (A Street)	South of Irvine Boulevard	60.6	61.1	61.0	0.4	3.0	No
367	Muirlands Boulevard	Bake Parkway to City Limits	67.2	67.1	67.2	0.0	1.5	No
368	Muirlands Boulevard	Alton Parkway to Sterling	66.3	66.3	66.3	0.0	1.5	No
369	Muirlands Boulevard	Wrigley to Bake Parkway	66.2	66.3	66.3	0.1	1.5	No
370	Newport Coast Drive	SR-73 NB Off-Ramp to Turtle Ridge	66.7	66.6	66.6	-0.1	1.5	No
371	Newport Coast Drive	Turtle Crest to Bonita Canyon Drive	65.2	65.1	65.1	-0.1	1.5	No
372	Nightmist	Sand Canyon Avenue to Tulip (Road C)	62.1	61.9	61.8	-0.3	3.0	No
373	Northwood	Yale Avenue to Savannah	62.4	62.5	62.5	0.1	3.0	No
374	Northwood	Goldrush to Yale Avenue	61.3	61.5	61.5	0.2	3.0	No
375	Oak Canyon Drive	Valley Oak Drive to Sand Canyon Avenue	67.4	69.2	69.2	1.8	1.5	**Yes**
376	Pacifica	Gateway to Barranca Parkway	64.6	65.2	65.2	0.6	3.0	No
377	Pacifica	Alton Parkway to Gateway	63.2	64.0	64.0	0.8	3.0	No
378	Pacifica	Irvine Center Drive to Fortune Drive (Spectrum Center Drive)	63.2	62.7	62.8	-0.4	3.0	No
379	Pacifica	Meridian to Alton Parkway	60.0	60.8	60.8	0.8	1.5	No
380	Park Place	Christamon South to Yale Avenue	57.0	57.0	57.0	0.0	5.0	No
381	Portola Parkway	Bee Canyon Access Road to Sand Canyon Avenue	71.3	71.5	71.7	0.4	1.5	No
382	Portola Parkway	Jeffrey Road to Bee Canyon Access Road	71.3	71.5	71.7	0.4	1.5	No
383	Portola Parkway	Arrowhead to Ridge Valley Parkway	71.3	71.4	71.5	0.2	1.5	No
384	Portola Parkway	Sand Canyon Avenue to Arrowhead	70.9	71.0	71.1	0.2	1.5	No
385	Portola Parkway	Portola Springs to SR-241 SB Off-Ramp	70.0	70.1	70.1	0.1	1.5	No
386	Portola Parkway	Gatepark to Culver Drive	70.3	70.6	70.7	0.4	1.5	No
387	Portola Parkway	ETC-6 (SR-261) NB Off-Ramp to Gatepark	70.2	70.5	70.7	0.5	1.5	No
388	Portola Parkway	SR-261 SB Off-Ramp to SR-261 NB Off-Ramp	70.1	70.4	70.5	0.4	1.5	No
389	Portola Parkway	Jamboree Road to Bellevue	70.1	70.4	70.5	0.4	1.5	No
390	Portola Parkway	Bellevue to ETC-6 (SR-261) SB Off-Ramp	70.0	70.3	70.4	0.4	1.5	No
391	Portola Parkway	Yale Avenue to Jeffrey Road	69.8	70.1	70.2	0.4	1.5	No
392	Portola Parkway	Culver Drive to Yale Avenue	69.4	69.6	69.7	0.3	1.5	No
393	Portola Parkway	Silverado to Portola Springs	68.5	68.5	68.6	0.1	1.5	No
394	Pusan	Irvine Boulevard to Cadence	56.1	56.2	56.1	0.0	5.0	No
395	Quail Hill Parkway	Shady Canyon Drive to Passage	67.6	67.4	67.4	-0.2	1.5	No
396	Quail Hill Parkway	East Knollcrest to Laguna Canyon Road	65.6	65.5	65.5	-0.1	1.5	No
397	Quassar Drive (Spectrum)	Irvine Center Drive to Spectrum Center Drive (Fortune)	54.9	54.8	54.9	0.0	5.0	No
398	Red Hill Avenue	MacArthur Boulevard to McGaw Avenue	71.3	71.5	71.6	0.3	1.5	No
399	Red Hill Avenue	I-405 Over Crossing to Main Street	69.9	70.1	70.2	0.3	1.5	No
400	Red Hill Avenue	Alton Parkway to Deere Avenue	69.9	70.0	70.1	0.2	1.5	No
401	Red Hill Avenue	McGaw Avenue to Alton Parkway	69.7	69.9	70.0	0.3	1.5	No

402	Red Hill Avenue	Deere Avenue to Barranca Parkway	69.7	69.8	69.9	0.2	1.5	No
403	Red Hill Avenue	Skypark East to MacArthur Boulevard	71.0	71.3	71.4	0.4	1.5	No
404	Red Hill Avenue	Main Street to Skypark East	70.4	70.6	70.8	0.4	1.5	No
405	Research Drive	Hubble to Bake Parkway	69.5	69.5	69.5	0.0	1.5	No
406	Research Drive	Scientific to Lake Forest Drive	67.6	67.4	67.8	0.2	1.5	No
407	Research Drive	Bake Parkway to Muller	66.5	66.6	66.7	0.2	1.5	No
408	Research Drive	Irvine Center Drive to Bunsen	65.5	65.6	65.7	0.2	1.5	No
409	Ridge Valley (O Street)	Irvine Boulevard to Trabuco Road (Great Park Boulevard)	67.4	67.3	67.3	-0.1	1.5	No
410	Ridge Valley (O Street)	Portola Parkway to Irvine Boulevard	66.5	66.4	66.4	-0.1	1.5	No
411	Ridge Valley (O Street)	Trabuco Road (Great Park Boulevard) to Marine Way	66.0	66.0	66.0	0.0	1.5	No
412	Ridge Valley (O Street)	Ranchland to Portola Parkway	58.1	58.1	58.1	0.0	5.0	No
413	Ridgeline Drive	Concordia East to University Drive	68.6	68.7	68.7	0.1	1.5	No
414	Ridgeline Drive	Turtle Rock Drive to San Simeon	68.2	68.4	68.4	0.2	1.5	No
415	Rockfield Avenue	Whatney to McLaren	67.5	67.6	67.7	0.2	1.5	No
416	Rockfield Avenue	Bake Parkway to Whatney	63.8	64.1	64.2	0.4	3.0	No
417	Rockfield Avenue	Thomas to Bake Parkway	62.6	63.1	63.1	0.5	3.0	No
418	Roosevelt	Jeffrey Road to Vision	66.1	66.5	66.6	0.5	1.5	No
419	Roosevelt	Yale Avenue to Van Buren	68.1	68.2	68.2	0.1	1.5	No
420	Roosevelt	Vision to Bay Tree	65.9	66.2	66.4	0.5	1.5	No
421	Roosevelt	Nimitz to Jeffrey Road	65.8	65.9	65.9	0.1	1.5	No
422	Roosevelt	Tulip (Road C) to Sand Canyon Avenue	65.6	65.6	65.7	0.1	1.5	No
423	Royal Oak	Alton Parkway to Eaglecreek	64.0	64.0	64.0	0.0	3.0	No
424	Sand Canyon Avenue	Oak Canyon Drive to Burt Road	71.9	72.1	72.1	0.2	1.5	No
425	Sand Canyon Avenue	Irvine Center Drive to Oak Canyon Drive	71.6	71.9	72.0	0.4	1.5	No
426	Sand Canyon Avenue	I-405 NB Off-Ramp to Alton Parkway	74.4	74.6	74.6	0.2	1.5	No
427	Sand Canyon Avenue	Burt Road to I-5 SB Off-Ramp	72.6	72.7	72.7	0.1	1.5	No
428	Sand Canyon Avenue	Marine to I-5 NB Off-Ramp	74.6	74.6	74.8	0.2	1.5	No
429	Sand Canyon Avenue	Trabuco Road to Towngate	71.3	71.1	71.3	0.0	1.5	No
430	Sand Canyon Avenue	Barranca Parkway to Waterworks	70.6	70.8	70.9	0.3	1.5	No
431	Sand Canyon Avenue	I-5 SB Off-Ramp to Marine	73.8	73.8	74.0	0.2	1.5	No
432	Sand Canyon Avenue	Hospital to Barranca Parkway	70.4	70.6	70.6	0.2	1.5	No
433	Sand Canyon Avenue	Nightmist to Roosevelt	73.4	73.5	73.5	0.1	1.5	No
434	Sand Canyon Avenue	I-405 SB Off-Ramp to I-405 NB Off-Ramp	73.4	73.5	73.5	0.1	1.5	No
435	Sand Canyon Avenue	I-5 NB Off-Ramp to Nightmist	73.5	73.5	73.7	0.2	1.5	No
436	Sand Canyon Avenue	Towngate to Irvine Boulevard	70.6	70.4	70.7	0.1	1.5	No
437	Sand Canyon Avenue	Waterworks to Irvine Center Drive	70.0	70.2	70.3	0.3	1.5	No
438	Sand Canyon Avenue	Irvine Boulevard to Portola Parkway	69.3	69.2	70.4	1.1	1.5	No

439	Sand Canyon Avenue	Roosevelt to Trabuco Road	72.8	72.8	72.8	0.0	1.5	No
440	Sand Canyon Avenue	Alton Parkway to Hospital	70.5	70.6	70.6	0.1	1.5	No
441	Sand Canyon/Shady Canyon	Quail Hill Parkway to I-405 SB Ramps	71.6	71.7	71.8	0.2	1.5	No
442	Scientific Way	Irvine Center Drive to Wald	54.9	55.0	54.9	0.0	5.0	No
443	Shady Canyon Drive	Culver Drive/Bonita Canyon Drive to Cloverfield	68.8	69.2	69.2	0.4	1.5	No
444	Shady Canyon Drive	Bommer Canyon Road to Sunnyhill	67.3	67.5	67.6	0.3	1.5	No
445	Skyhawk	Great Park Boulevard to Marine Way	60.2	59.6	59.6	-0.6	3.0	No
446	Southwood	Yale Avenue to Colt	60.5	60.5	60.6	0.1	3.0	No
447	Southwood	Challenger to Yale Avenue	60.3	60.2	60.3	0.0	3.0	No
448	Spectrum Center Drive (Fortune Drive)	Pacifica to Quassar Drive (Spectrum)	61.9	61.9	62.0	0.1	3.0	No
449	Spectrum Center Drive (Fortune Drive)	Quassar Drive (Spectrum) to Gatewayb	62.4	62.4	62.5	0.1	3.0	No
450	Sunnyhill	Shady Canyon Drive to Turtle Rock Drive	57.0	57.6	57.6	0.6	5.0	No
451	Technology Drive	Barranca Parkway to Alton Parkway	69.9	70.6	70.6	0.7	1.5	No
452	Technology Drive	Old Laguna Canyon Road to I-5/SR-133 Undercrossing	67.1	69.2	69.3	2.2	1.5	**Yes**
453	Technology Drive	I-5/SR-133 to Barranca Parkway	66.1	69.1	69.1	3.0	1.5	**Yes**
454	Technology Drive	Ada to Alton Parkway	59.9	63.0	63.1	3.2	5.0	No
455	Toledo Way	Bake Parkway to City Limits	65.8	65.7	65.7	-0.1	1.5	No
456	Toledo Way	Goodyear to Bake Parkway	64.9	64.7	64.7	-0.2	3.0	No
457	Toledo Way	Alton Parkway to Parker	64.5	64.3	64.4	-0.1	3.0	No
458	Trabuco Road	Keystone to Sand Canyon Avenue	67.0	67.1	67.2	0.2	1.5	No
459	Trabuco Road	Jeffrey Road to Keystone	66.9	66.9	66.9	0.0	1.5	No
460	Trabuco Road	Culver Drive to I-5 NB Off-Ramp	66.6	66.7	66.8	0.2	1.5	No
461	Trabuco Road	Monroe to Yale Avenue	66.5	66.6	66.7	0.2	1.5	No
462	Trabuco Road	I-5 NB Off-Ramp to Monroe	66.5	66.5	66.6	0.1	1.5	No
463	Trabuco Road	Yale Avenue to Remington	66.0	66.2	66.3	0.3	1.5	No
464	Trabuco Road	Remington to Jeffrey Road	66.0	66.0	66.1	0.1	1.5	No
465	Turtle Ridge Drive	Federation Way to Bonita Canyon	68.8	68.8	68.7	-0.1	1.5	No
466	Turtle Rock Drive	Ridgeline to Willowleaf	67.5	67.8	67.8	0.3	1.5	No
467	Turtle Rock Drive	Silkwood to Sunnyhill	67.4	67.7	67.8	0.4	1.5	No
468	Turtle Rock Drive	Canyon Park to Ridgeline	66.8	67.0	67.0	0.2	1.5	No
469	Turtle Rock Drive	Sunnyhill to Southernwood	64.0	64.0	64.0	0.0	3.0	No
470	Turtle Rock Drive	Campus Drive to Hillgate	64.0	64.1	64.0	0.0	3.0	No
471	Turtle Rock Drive	Paseo Segovia to Campus Drive	65.4	65.4	65.4	0.0	1.5	No
472	University Drive	Golden Glow to Yale Avenue	72.6	72.9	73.0	0.4	1.5	No
473	University Drive	Ridgeline to Michelson Drive	72.3	72.5	72.6	0.3	1.5	No
474	University Drive	Culver Drive to Golden Glow	72.5	72.8	72.9	0.4	1.5	No
475	University Drive	Yale Avenue to Ridgeline	72.2	72.3	72.4	0.2	1.5	No

476	University Drive	Michelson Drive to I-405 SB Off-Ramp	72.4	72.7	72.7	0.3	1.5	No
477	University Drive	Mesa to Campus Drive	74.2	74.5	74.6	0.4	1.5	No
478	University Drive	MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue	74.2	74.4	74.6	0.4	1.5	No
479	University Drive	California Avenue to Mesa	74.1	74.3	74.4	0.3	1.5	No
480	University Drive	Campus Drive to Harvard Avenue	70.3	70.6	70.7	0.4	1.5	No
481	University Drive	SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps	71.3	71.5	71.7	0.4	1.5	No
482	University Drive	SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps	70.0	70.1	70.3	0.3	1.5	No
483	University Drive	San Joaquin to Culver Drive	69.4	69.7	69.8	0.4	1.5	No
484	University Drive	Harvard Avenue to San Joaquin	69.4	69.7	69.8	0.4	1.5	No
485	Valley Oak Drive	Hawkcreek to Barranca Parkway	68.0	68.0	68.0	0.0	1.5	No
486	Valley Oak Drive	Irvine Center Drive to Oak Canyon Drive	67.6	69.0	69.1	1.5	1.5	**Yes**
487	Valley Oak Drive	Barranca Parkway to Irvine Center Drive	65.7	66.7	66.8	1.1	1.5	No
488	Valley Oak Drive	Alton Parkway to Hawkcreek	65.0	64.8	64.8	-0.2	1.5	No
489	Von Karman Avenue	Marriott to Morse Avenue	70.6	70.9	70.9	0.3	1.5	No
490	Von Karman Avenue	Michelson Drive to Quartz	70.4	70.7	70.8	0.4	1.5	No
491	Von Karman Avenue	McGaw Avenue to Alton Parkway	70.1	70.7	70.7	0.6	1.5	No
492	Von Karman Avenue	Alton Parkway to Barranca Parkway	69.7	70.3	70.4	0.7	1.5	No
493	Von Karman Avenue	Main Street to Anchor	69.9	70.6	70.6	0.7	1.5	No
494	Von Karman Avenue	Anchor to McGaw Avenue	69.9	70.4	70.5	0.6	1.5	No
495	Von Karman Avenue	Morse to Main Street	69.9	70.2	70.2	0.3	1.5	No
496	Von Karman Avenue	Martin to Dupont Drive	69.2	69.5	69.6	0.4	1.5	No
497	Von Karman Avenue	Campus Drive to Martin	69.2	69.5	69.5	0.3	1.5	No
498	Von Karman Avenue	Dupont Drive to Michelson Drive	69.2	69.5	69.5	0.3	1.5	No
499	Walnut Avenue	Jeffrey Road to I-5 SB Off-Ramp	70.5	70.9	70.9	0.4	1.5	No
500	Walnut Avenue	Myford Road to Jamboree Road SB Off-Ramp	68.9	69.1	69.1	0.2	1.5	No
501	Walnut Avenue	The Mall Street to Culver Drive	68.5	68.7	68.8	0.3	1.5	No
502	Walnut Avenue	Harvard Avenue to The Mall Street	68.4	68.7	68.7	0.3	1.5	No
503	Walnut Avenue	Franciscan Street to Ravenwood Street	68.1	68.4	68.5	0.4	1.5	No
504	Walnut Avenue	Ravenwood Street to Yale Avenue	68.1	68.4	68.3	0.2	1.5	No
505	Walnut Avenue	Culver Drive to Franciscan Street	68.1	68.3	68.4	0.3	1.5	No
506	Walnut Avenue	Peters Canyon Road to Harvard Avenue	67.6	67.9	68.0	0.4	1.5	No
507	Walnut Avenue	Jamboree Road NB Off-Ramp to Peters Canyon Road	67.5	67.8	67.8	0.3	1.5	No
508	Walnut Avenue	Yale Avenue to Kazan Street	67.0	67.1	67.2	0.2	1.5	No
509	Walnut Avenue	Wisteria to Jeffrey Road	67.0	67.1	67.2	0.2	1.5	No
510	Warner Avenue	Jamboree Road SB Off-ramp to Construction North	70.1	70.2	70.1	0.0	1.5	No
511	Warner Avenue	Construction North to Harvard Avenue	68.4	68.6	68.5	0.1	1.5	No
512	Warner Avenue	Harvard Avenue to Paseo Westpark	66.8	67.0	67.0	0.2	1.5	No

513	Warner Avenue	Santa Ynez to Culver Drive	65.6	66.0	66.0	0.4	1.5	No
514	Warner Avenue	Culver Drive to West Yale Loop	65.1	65.7	65.7	0.6	1.5	No
515	West Yale Loop	Alton Parkway to Blue Lake North	64.0	64.0	64.0	0.0	3.0	No
516	West Yale Loop	Eagle Run to Main Street	63.8	63.8	63.9	0.1	3.0	No
517	West Yale Loop	Thunder Run to Yale Avenue	63.6	63.9	63.9	0.3	3.0	No
518	West Yale Loop	Main Street to Timber Run	62.9	62.9	62.8	-0.1	3.0	No
519	West Yale Loop	Yale Avenue to Shorebird	62.1	62.9	63.0	0.9	3.0	No
520	West Yale Loop	Warner Avenue to Stonecreek South	62.4	62.6	62.6	0.2	3.0	No
521	West Yale Loop	Barranca Parkway to Alton Parkway	62.4	62.4	62.4	0.0	3.0	No
522	West Yale Loop	Stonecreek North to Warner Avenue	62.0	62.4	62.5	0.5	3.0	No
523	West Yale Loop	Birdsong to Barranca Parkway	62.2	62.3	62.3	0.1	3.0	No
524	Westwood	Yorktown to Bryan Avenue	63.6	63.6	63.5	-0.1	3.0	No
525	Westwood	Bryan Avenue to Leaf	61.6	61.5	61.5	-0.1	3.0	No
526	Yale Avenue	Deerfield Avenue to Winvale Avenue	68.6	68.6	68.6	0.0	1.5	No
527	Yale Avenue	Hicks Canyon Drive to Meadowood	67.4	67.3	67.3	-0.1	1.5	No
528	Yale Avenue	Walnut Avenue to Roosevelt	70.9	71.0	71.0	0.1	1.5	No
529	Yale Avenue	Roosevelt to Trabuco Road	67.1	67.0	67.1	0.0	1.5	No
530	Yale Avenue	Irvine Center Drive to Deerfield Avenue	67.0	66.9	66.9	-0.1	1.5	No
531	Yale Avenue	West Yale Loop to Irvine Center Drive	65.8	66.3	66.4	0.6	1.5	No
532	Yale Avenue	Winvale Avenue to Karen Ann Lane	65.7	65.7	65.7	0.0	1.5	No
533	Yale Avenue	Karen Ann Lane to Walnut Avenue	65.7	65.7	65.7	0.0	1.5	No
534	Yale Avenue	Trabuco Road to Southwood	65.6	65.6	65.7	0.1	1.5	No
535	Yale Avenue	Southwood to Bryan Avenue	65.6	65.4	65.5	-0.1	1.5	No
536	Yale Avenue	Northwood to Irvine Boulevard	65.3	65.1	65.1	-0.2	1.5	No
537	Yale Avenue	Bryan Avenue to Monticello	65.2	65.0	65.0	-0.2	1.5	No
538	Yale Avenue	Irvine Boulevard to Park Place	64.3	64.3	64.3	0.0	3.0	No
539	Yale Avenue	University Drive to Royce	63.0	63.4	63.5	0.5	3.0	No
540	Yale Court	Arborwood to Portola Parkway	60.3	60.3	60.3	0.0	3.0	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[3] Does the Project create an incremental noise level increase exceeding the significance criteria ?

ATTACHMENT B
NOISE MODEL OUTPUT

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ada
Road Segment: Barranca Parway to Marine Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-59.51	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-63.47	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	24.9	23.8	22.0	16.0	24.6	25.2
Medium Trucks:	18.9	18.2	11.8	10.3	18.7	19.0
Heavy Trucks:	20.2	19.6	10.5	11.8	20.1	20.3
Vehicle Noise:	26.9	26.0	22.7	18.2	26.7	27.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ada
Road Segment: Alton Parkway to Barranca PArkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	330 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-23.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-27.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.0	56.9	55.2	49.1	57.7	58.4
Medium Trucks:	52.0	51.3	45.0	43.4	51.9	52.1
Heavy Trucks:	53.3	52.7	43.7	44.9	53.3	53.4
Vehicle Noise:	60.0	59.1	55.8	51.3	59.8	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	131
CNEL:	14	30	65	141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Enterprise to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,482	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.19	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.9	62.2	55.8	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.0	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	205	442	952
CNEL:	102	220	475	1,022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: I-5 NB Off-Ramp to Technology Drive West

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,787 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.37	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.86	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.82	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.1	63.5	54.4	55.7	64.1	64.2
Vehicle Noise:	71.8	70.9	67.8	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	220	474	1,021
CNEL:	110	236	509	1,097

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,401 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	55.0	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	331	712
CNEL:	77	165	355	765

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Gateway Boulevard to Enterprise

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,211 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	703
CNEL:	76	163	351	755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Jeffrey Road to Royal Oak

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,815	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	591
CNEL:	63	137	295	635

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Daimler Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	413 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-6.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-23.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-27.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	55.3	54.6	48.2	46.7	55.2	55.4
Heavy Trucks:	55.7	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	63.4	62.5	59.4	54.7	63.2	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	24	51	110	236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,947 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.1	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	67	143	309	665

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,906 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	283	611
CNEL:	66	141	304	656

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,459 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.50	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.74	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.70	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	355	765
CNEL:	82	177	382	822

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Creek Road to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,823	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.1	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.2
Vehicle Noise:	69.9	68.9	65.9	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	593
CNEL:	64	137	296	637

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Red Hill Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,147 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.8	60.1	60.2
Vehicle Noise:	67.8	66.9	63.9	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	202	435
CNEL:	47	101	217	468

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,799	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.7	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.8	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	587
CNEL:	63	136	293	631

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Telemetry to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,411 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	232	500
CNEL:	54	116	249	537

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Irvine Boulevard to Commercentre

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,789	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.19	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	821
CNEL:	88	190	409	882

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Jenner to Telemetry

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,403	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	53	115	248	535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Irvine Center Drive to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,889 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.2	59.6	53.2	51.6	60.1	60.3
Heavy Trucks:	60.6	60.1	51.0	52.3	60.6	60.7
Vehicle Noise:	68.4	67.4	64.4	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	294	633
CNEL:	68	147	316	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Sand Canyon Avenue to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,153 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.92	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.32	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.27	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	64.2	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	71.9	71.0	67.9	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	360	776
CNEL:	83	180	387	834

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Laguna Canyon Road to Jenner

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	53	115	248	535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Technology Drive East to Barranca Pkwy/Muirlands Blvd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,129 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.37	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.2	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	68.9	68.0	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	318	685
CNEL:	74	159	342	736

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Royal Oak to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,551 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.50	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.1	61.4	61.5
Vehicle Noise:	69.2	68.2	65.2	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	532
CNEL:	57	123	265	572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,221 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.5	66.2	66.8
Medium Trucks:	60.0	59.3	52.9	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	211	454
CNEL:	49	105	226	487

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Barranca Pkwy/Muirlands Blvd to Jeronimo Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,657 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.83	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	369	795
CNEL:	85	184	396	854

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Ada to Technology Drive East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,162	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	693
CNEL:	74	160	345	744

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,312 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Jeronimo Road to Hughes

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,467 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.51	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.73	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.4	60.7	54.3	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	351	756
CNEL:	81	175	377	813

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Hughes to Morgan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,335	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	61.6	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	69.3	68.4	65.3	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	729
CNEL:	78	169	364	783

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Morgan to Toledo Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,972 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.54	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.70	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	60.8	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	68.5	67.6	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	651
CNEL:	70	151	325	700

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: San Marino to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,972	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.54	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.70	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	60.8	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	68.5	67.6	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	651
CNEL:	70	151	325	700

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.8	66.8	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	268	578
CNEL:	62	134	288	621

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Hospital to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,543 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.53	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.76	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.72	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	668

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,691 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.13	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.36	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.32	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	307	661
CNEL:	71	153	330	710

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Murphy Avenue to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,675 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.9	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	584
CNEL:	63	135	291	628

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Foster to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,625	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.4
Medium Trucks:	59.6	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	266	573
CNEL:	62	133	286	615

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Fairbanks to Foster

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,469	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.2
Heavy Trucks:	59.5	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.3	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	248	535
CNEL:	58	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Toledo Way to Bertea

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,716 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	67.9	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	276	594
CNEL:	64	137	296	638

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Pacifica to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,221 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.54	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.78	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.74	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	532
CNEL:	57	123	265	571

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Bertea to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,675	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.9	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	584
CNEL:	63	135	291	628

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Meridian to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,188	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	58.6	58.0	49.0	50.3	58.6	58.7
Vehicle Noise:	66.3	65.4	62.4	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	216	465
CNEL:	50	108	232	499

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Paseo Westpark to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,601 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.60	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.6	66.7	63.7	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	263	567
CNEL:	61	131	283	609

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alton Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,279 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.5	57.9	51.5	50.0	58.4	58.6
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	66.7	65.7	62.7	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	488
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Astor
Road Segment: Lynx to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.60	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-24.84	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-28.80	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.8	53.7	52.0	45.9	54.5	55.1
Medium Trucks:	49.3	48.6	42.3	40.7	49.2	49.4
Heavy Trucks:	51.8	51.2	42.1	43.4	51.7	51.9
Vehicle Noise:	57.3	56.4	52.8	48.6	57.1	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	52
CNEL:	6	12	26	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Astor
Road Segment: Cadence to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-41.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-58.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-62.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	21.4	20.3	18.5	12.5	21.1	21.7
Medium Trucks:	15.9	15.2	8.8	7.3	15.8	16.0
Heavy Trucks:	18.3	17.7	8.7	10.0	18.3	18.4
Vehicle Noise:	23.9	23.0	19.4	15.2	23.7	24.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: I-5 NB Off-Ramp to Rockfield Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	71,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,899	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.30	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-11.94	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-15.90	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.4	72.3	70.6	64.5	73.1	73.7
Medium Trucks:	67.0	66.3	59.9	58.4	66.8	67.1
Heavy Trucks:	67.4	66.8	57.8	59.0	67.4	67.5
Vehicle Noise:	75.1	74.2	71.1	66.3	74.9	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	212	456	983	2,118
CNEL:	228	490	1,056	2,276

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Muirlands Boulevard to Jeronimo Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,859 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.3	63.7	57.3	55.7	64.2	64.4
Heavy Trucks:	64.7	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.5	71.5	68.5	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	256	552	1,188
CNEL:	128	275	593	1,277

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Rockfield Boulevard to Muirlands Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,107 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.67	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.57	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.52	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	69.9	63.9	72.5	73.1
Medium Trucks:	66.3	65.7	59.3	57.8	66.2	66.4
Heavy Trucks:	66.7	66.2	57.1	58.4	66.7	66.9
Vehicle Noise:	74.5	73.5	70.5	65.7	74.3	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	192	415	893	1,924
CNEL:	207	445	960	2,067

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Jeronimo Road to Toledo Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,001 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.0	69.7	70.3
Medium Trucks:	63.5	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.6	70.7	67.7	62.9	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	225	485	1,044
CNEL:	112	242	521	1,122

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Toledo Way to Cromwell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,704 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.3	70.4	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	214	460	992
CNEL:	107	230	495	1,066

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Cromwell to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,581 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	970
CNEL:	104	224	483	1,042

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Research Drive to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,823 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.1	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	618
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Irvine Center Drive to Research Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	660 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-21.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-25.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.0	59.3	53.2	61.8	62.4
Medium Trucks:	55.7	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	56.1	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	63.8	62.9	59.8	55.0	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	314
CNEL:	34	73	157	337

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bake Parkway
Road Segment: Lake Forest Drive to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	404 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-6.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-23.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-27.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	53.5	52.9	46.5	44.9	53.4	53.6
Heavy Trucks:	53.9	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	61.7	60.7	57.7	52.9	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	113	243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Banting
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	248 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.1	54.1	52.3	46.2	54.9	55.5
Medium Trucks:	49.3	48.7	42.3	40.8	49.2	49.5
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	57.4	56.5	53.0	48.6	57.2	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	87
CNEL:	9	20	43	93

Saturday, March 2, 2024

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Pacifica to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,576	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	631
CNEL:	68	146	315	679

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,642	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.4	69.5	66.6	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	301	649
CNEL:	70	150	324	698

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: I-5 HOV Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,337 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.6	68.6	65.7	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	262	566
CNEL:	61	131	282	608

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,543	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	311	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Irvine Center Drive to I-5 HOV Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,180 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	60.9	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	520
CNEL:	56	121	260	560

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,178 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.7	70.7	67.8	62.9	71.5	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	783
CNEL:	84	182	391	843

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,038 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	71.4	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	348	749
CNEL:	81	174	374	806

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.3	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	346	745
CNEL:	80	173	372	802

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,469 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	602
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,848	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.8	62.1	55.7	54.2	62.7	62.9
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	71.0	70.0	67.1	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	702
CNEL:	76	163	350	755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Red Hill Avenue to Armstrong Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,912	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.82	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-15.42	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-19.37	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	155	335	721	1,553
CNEL:	167	360	775	1,671

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Discovery/Herchel to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,312	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.3	60.6	54.2	52.7	61.2	61.4
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.5	68.5	65.6	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	559
CNEL:	60	129	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Lyon to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,757 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.9	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	315	679
CNEL:	73	157	339	730

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Creek Road to Lyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,724 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	311	670
CNEL:	72	155	335	721

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,591 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.31	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.93	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.88	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	71.2	70.3	67.3	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	432	930
CNEL:	100	216	464	1,001

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Sand Canyon Avenue to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.1	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	68.2	67.3	64.4	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	463
CNEL:	50	107	231	498

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Armstrong Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,904 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.81	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.43	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.39	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.7	70.8	67.8	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	466	1,004
CNEL:	108	233	501	1,080

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,130 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.6	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	60.7	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	68.8	67.9	64.9	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	235	506
CNEL:	54	117	253	544

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Jamboree Road to Construction Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,104 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.7	61.0	54.6	53.1	61.6	61.8
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.9	68.9	66.0	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	370	798
CNEL:	86	185	399	859

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Santa Rosa to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,947 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.5	68.6	65.7	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	352	758
CNEL:	82	176	378	815

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: FedEx to Discovery/Herchel

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,056 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	60.4	59.8	50.7	52.0	60.4	60.5
Vehicle Noise:	68.5	67.6	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	224	483
CNEL:	52	112	241	520

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Jeffrey Road to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	949 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	59.9	59.2	52.8	51.3	59.8	60.0
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	68.1	67.1	64.2	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	450
CNEL:	48	104	225	484

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Laguna Canyon Road to FedEx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,048 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.86	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.5	67.6	64.6	59.7	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	240	517

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Pullman Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,516 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.19	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-16.05	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-20.01	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.4	71.5	68.6	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	303	654	1,409
CNEL:	152	327	703	1,516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Construction Circle to Fire Station

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,782 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.0	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	69.1	68.2	65.3	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	332	715
CNEL:	77	166	357	769

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Fire Station to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,782 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.0	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	69.1	68.2	65.3	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	332	715
CNEL:	77	166	357	769

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Paseo Westpark to Santa Rosa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.67	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.63	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	60.8	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	60.9	60.3	51.2	52.5	60.9	61.0
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	325	701
CNEL:	75	163	350	754

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Barranca Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,691 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.54	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.8
Heavy Trucks:	60.8	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	320	690
CNEL:	74	160	345	742

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bay Tree
Road Segment: Trabuco Road to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	173 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-25.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-29.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.6	52.5	50.8	44.7	53.3	53.9
Medium Trucks:	47.8	47.1	40.8	39.2	47.7	47.9
Heavy Trucks:	49.7	49.1	40.0	41.3	49.6	49.8
Vehicle Noise:	55.8	54.9	51.5	47.1	55.6	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	74

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Beacon
Road Segment: Ridge Valley to Benchmark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-41.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-58.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-62.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	21.4	20.3	18.5	12.5	21.1	21.7
Medium Trucks:	15.9	15.2	8.8	7.3	15.8	16.0
Heavy Trucks:	18.3	17.7	8.7	10.0	18.3	18.4
Vehicle Noise:	23.9	23.0	19.4	15.2	23.7	24.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Benchmark (LN Street)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-41.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-58.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-62.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	21.4	20.3	18.5	12.5	21.1	21.7
Medium Trucks:	15.9	15.2	8.8	7.3	15.8	16.0
Heavy Trucks:	18.3	17.7	8.7	10.0	18.3	18.4
Vehicle Noise:	23.9	23.0	19.4	15.2	23.7	24.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bison Avenue
Road Segment: SR-73 NB Off-Ramp to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,683 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.2	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	472
CNEL:	51	109	235	506

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bonita Canyon Drive
Road Segment: MacArthur Boulevard to SR-73

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,401 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.39	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.84	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-19.80	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.7
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	69.8	68.8	65.8	61.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	325	701
CNEL:	75	162	350	753

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bonita Canyon Drive
Road Segment: Turtle Ridge to Shady Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,353 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.10	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.33	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-22.29	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.4	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	478
CNEL:	51	111	239	514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bonita Canyon Drive
Road Segment: Newport Coast Drive to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,353 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.10	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.33	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-22.29	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.4	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	478
CNEL:	51	111	239	514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bonita Canyon Drive
Road Segment: SR-73 NB Off-Ramp to Newport Coast Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,353 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.10	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.33	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-22.29	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.4	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	478
CNEL:	51	111	239	514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bosque
Road Segment: Cadence to Great Park Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	635 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-2.16	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.40	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.2	57.4	51.3	60.0	60.6
Medium Trucks:	54.7	54.1	47.7	46.2	54.6	54.8
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	62.7	61.9	58.2	54.0	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	120
CNEL:	13	27	59	128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bosque
Road Segment: Irvine Boulevard to Benchmark (LN Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	297 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.46	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-22.70	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-26.66	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.9	55.9	54.1	48.0	56.7	57.3
Medium Trucks:	51.4	50.8	44.4	42.9	51.3	51.5
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	59.4	58.6	54.9	50.7	59.3	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	33	72
CNEL:	8	17	36	77

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bosque
Road Segment: Benchmark to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	297 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.46	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-22.70	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-26.66	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.9	55.9	54.1	48.0	56.7	57.3
Medium Trucks:	51.4	50.8	44.4	42.9	51.3	51.5
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	59.4	58.6	54.9	50.7	59.3	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	33	72
CNEL:	8	17	36	77

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bosque
Road Segment: Great Park Boulevard to Beacon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-41.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-58.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-62.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	21.4	20.3	18.5	12.5	21.1	21.7
Medium Trucks:	15.9	15.2	8.8	7.3	15.8	16.0
Heavy Trucks:	18.3	17.7	8.7	10.0	18.3	18.4
Vehicle Noise:	23.9	23.0	19.4	15.2	23.7	24.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bosque
Road Segment: Beacon to S 5th Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-41.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-58.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-62.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	21.4	20.3	18.5	12.5	21.1	21.7
Medium Trucks:	15.9	15.2	8.8	7.3	15.8	16.0
Heavy Trucks:	18.3	17.7	8.7	10.0	18.3	18.4
Vehicle Noise:	23.9	23.0	19.4	15.2	23.7	24.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Jamboree Road to Market Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,708	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Market Place to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,708	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Rubicon to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,708	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: El Camino Real to Rubicon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,708 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Eastwood to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	875	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	57.4	56.8	50.4	48.9	57.3	57.6
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.5	64.6	61.5	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	66	142	305
CNEL:	33	70	152	327

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Westwood to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	982	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	329
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Culver Drive to Westwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	982	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	329
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bryan Avenue
Road Segment: Yale Avenue to Eastwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	875	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	57.4	56.8	50.4	48.9	57.3	57.6
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.5	64.6	61.5	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	66	142	305
CNEL:	33	70	152	327

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cadence
Road Segment: Pusan to Chinon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	454 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.87	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.11	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.07	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.3	61.2	59.4	53.4	62.0	62.6
Medium Trucks:	56.3	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.6	57.0	47.9	49.2	57.5	57.7
Vehicle Noise:	64.3	63.4	60.1	55.6	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	70	152
CNEL:	16	35	75	162

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cadence
Road Segment: Bosque to Pusan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	586 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.76	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.00	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-24.96	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.4	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	58.7	58.1	49.0	50.3	58.7	58.8
Vehicle Noise:	65.4	64.5	61.2	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	180
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cadence
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	289 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.83	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-24.07	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-28.03	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.5	51.4	60.0	60.7
Medium Trucks:	54.3	53.6	47.3	45.7	54.2	54.4
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	112
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cadence
Road Segment: Chinon to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	289 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.83	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-24.07	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-28.03	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.5	51.4	60.0	60.7
Medium Trucks:	54.3	53.6	47.3	45.7	54.2	54.4
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	112
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cadence
Road Segment: Merit to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-59.51	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-63.47	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	24.9	23.8	22.0	16.0	24.6	25.2
Medium Trucks:	18.9	18.2	11.8	10.3	18.7	19.0
Heavy Trucks:	20.2	19.6	10.5	11.8	20.1	20.3
Vehicle Noise:	26.9	26.0	22.7	18.2	26.7	27.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: California Avenue
Road Segment: University Drive to Academy Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	825 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	56.0	55.3	48.9	47.4	55.8	56.1
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.0	63.1	59.8	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	242
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: California Avenue
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	644 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.55	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.8	58.1	52.0	60.6	61.3
Medium Trucks:	54.9	54.2	47.9	46.3	54.8	55.0
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	62.9	62.0	58.7	54.2	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	205
CNEL:	22	47	102	219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: California Avenue
Road Segment: Theory to Bison Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	627 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.8	59.7	58.0	51.9	60.5	61.1
Medium Trucks:	54.8	54.1	47.7	46.2	54.7	54.9
Heavy Trucks:	56.1	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	62.8	61.9	58.6	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	93	201
CNEL:	22	46	100	216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Carlson Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.94	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-18.18	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-22.13	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	537
CNEL:	58	124	268	577

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: University Drive to Bridge Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,832 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.9	69.0	65.9	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	276	595
CNEL:	64	138	296	639

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Jamboree Road to Carlson Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	53	115	248	535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Stanford Court to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,832 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.9	69.0	65.9	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	276	595
CNEL:	64	138	296	639

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: California Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,361 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	60.9	60.3	51.2	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.6	59.8	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	488
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Berkeley Avenue to Cornell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,361 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	60.9	60.3	51.2	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.6	59.8	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	488
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Martin to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	998 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	67.2	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	397
CNEL:	43	92	198	426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Culver Drive to Paseo Montoya (Turtle Rock Drive)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,246 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.1	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	460
CNEL:	49	106	229	494

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Von Karman Avenue to Teller Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	850 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-20.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-24.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.5	65.6	62.6	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: MacArthur Boulevard to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	998	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	67.2	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	397
CNEL:	43	92	198	426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Campus Drive
Road Segment: Teller Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	850 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-20.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-24.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.5	65.6	62.6	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Carlson Avenue
Road Segment: Michelson Drive to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	56.1	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	56.5	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	64.2	63.3	60.2	55.4	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	115	249
CNEL:	27	58	124	267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Chinon
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	223 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-5.92	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.16	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.11	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.4	52.4	50.6	44.6	53.2	53.8
Medium Trucks:	48.3	47.6	41.3	39.7	48.2	48.4
Heavy Trucks:	51.5	50.9	41.9	43.1	51.5	51.6
Vehicle Noise:	56.3	55.5	51.6	47.7	56.2	56.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	10	21	45
CNEL:	5	10	22	48

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Creek Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	322 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-21.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-25.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.2	51.1	49.3	43.3	51.9	52.5
Medium Trucks:	47.0	46.3	40.0	38.4	46.9	47.1
Heavy Trucks:	50.2	49.6	40.6	41.8	50.2	50.3
Vehicle Noise:	55.0	54.2	50.3	46.4	54.9	55.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	61
CNEL:	7	14	30	65

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,447 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	64.9	64.3	57.9	56.4	64.8	65.0
Heavy Trucks:	65.0	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	73.1	72.2	69.2	64.4	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	283	610	1,315
CNEL:	141	305	656	1,414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,447 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	64.9	64.3	57.9	56.4	64.8	65.0
Heavy Trucks:	65.0	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	73.1	72.2	69.2	64.4	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	283	610	1,315
CNEL:	141	305	656	1,414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,736 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.8	69.0	62.9	71.6	72.2
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.2	64.6	55.6	56.9	65.2	65.3
Vehicle Noise:	73.4	72.5	69.5	64.6	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	137	295	636	1,371
CNEL:	147	318	685	1,475

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Scottsdale Drive to I-5 SB Off- Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,736	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.8	69.0	62.9	71.6	72.2
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.2	64.6	55.6	56.9	65.2	65.3
Vehicle Noise:	73.4	72.5	69.5	64.6	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	137	295	636	1,371
CNEL:	147	318	685	1,475

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: I-405 NB Off-Ramp to San Leandro

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,447 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	64.9	64.3	57.9	56.4	64.8	65.0
Heavy Trucks:	65.0	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	73.1	72.2	69.2	64.4	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	283	610	1,315
CNEL:	141	305	656	1,414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: San Leandro to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,249 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	275	592	1,275
CNEL:	137	296	637	1,372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Harvard Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,820	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.00	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.24	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.1	62.0	70.6	71.2
Medium Trucks:	64.3	63.6	57.2	55.7	64.2	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.5	71.5	68.6	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	256	551	1,188
CNEL:	128	275	593	1,278

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Trabuco Road to Farwell Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,736	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.93	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.31	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.26	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.2	71.2	69.4	63.3	72.0	72.6
Medium Trucks:	65.6	64.9	58.6	57.0	65.5	65.7
Heavy Trucks:	65.6	65.1	56.0	57.3	65.6	65.8
Vehicle Noise:	73.8	72.9	69.9	65.0	73.6	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	139	300	645	1,390
CNEL:	150	322	694	1,496

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,927 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.1	64.4	64.5
Vehicle Noise:	72.6	71.7	68.7	63.8	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	562	1,210
CNEL:	130	280	604	1,302

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Main Street to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,828 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.19	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.1	62.0	70.6	71.2
Medium Trucks:	64.3	63.6	57.2	55.7	64.2	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.5	71.5	68.6	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	256	552	1,190
CNEL:	128	276	594	1,280

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Warner Avenue to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,754 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	68.0	61.9	70.5	71.1
Medium Trucks:	64.2	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.2	63.6	54.6	55.9	64.2	64.3
Vehicle Noise:	72.4	71.5	68.5	63.6	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	117	253	545	1,174
CNEL:	126	272	586	1,263

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Walnut Avenue to Scottsdale Dive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,696 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.1	63.5	57.1	55.5	64.0	64.2
Heavy Trucks:	64.2	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	539	1,162
CNEL:	125	269	580	1,250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,688	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.8	70.5	71.1
Medium Trucks:	64.1	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.1	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	539	1,160
CNEL:	125	269	579	1,248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Shady Canyon Drive to Palo Verde

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,906 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.3	69.9
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	71.1	70.2	67.2	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	154	333	716
CNEL:	77	166	358	771

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Deerfield Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,440 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.54	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.69	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.4	67.6	61.5	70.2	70.8
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	63.8	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	72.0	71.1	68.1	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	239	514	1,108
CNEL:	119	257	553	1,192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Sandburg Way to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,135	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.4	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	71.6	70.7	67.7	62.8	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	483	1,041
CNEL:	112	241	520	1,120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,267 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.6	63.0	54.0	55.3	63.6	63.7
Vehicle Noise:	71.8	70.9	67.9	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	231	497	1,070
CNEL:	115	248	534	1,151

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Palo Verde to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,906	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.3	69.9
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	71.1	70.2	67.2	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	154	333	716
CNEL:	77	166	358	771

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: University Drive to Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,879	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.42	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.0	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	71.2	70.3	67.4	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	212	457	984
CNEL:	106	228	491	1,058

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Farwell Avenue to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.70	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.54	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.50	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.3	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,150
CNEL:	124	267	574	1,238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Campus Drive to High School

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,962	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.4	70.4	67.5	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,003
CNEL:	108	232	501	1,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: High School to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,962	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.4	70.4	67.5	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,003
CNEL:	108	232	501	1,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Bryan Avenue to Florence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,846 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	71.2	70.3	67.3	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	210	453	976
CNEL:	105	226	488	1,050

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Portola Parkway to Settlers

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,081 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.4	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	60.5	59.9	50.8	52.1	60.5	60.6
Vehicle Noise:	68.6	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	491
CNEL:	53	114	245	528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Florence to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,772	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.2	69.8
Medium Trucks:	62.9	62.2	55.8	54.3	62.8	63.0
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	71.1	70.1	67.2	62.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	445	959
CNEL:	103	222	479	1,032

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Irvine Boulevard to Viewpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.6
Vehicle Noise:	69.7	68.8	65.8	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	361	777
CNEL:	84	180	388	836

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Viewpark to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.6
Vehicle Noise:	69.7	68.8	65.8	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	361	777
CNEL:	84	180	388	836

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Settlers to Furrow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-43.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-60.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-64.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	25.9	24.8	23.0	17.0	25.6	26.2
Medium Trucks:	19.3	18.6	12.2	10.7	19.2	19.4
Heavy Trucks:	19.3	18.7	9.7	10.9	19.3	19.4
Vehicle Noise:	27.5	26.5	23.6	18.7	27.3	27.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Culver Drive
Road Segment: Meadowood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,378	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.67	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	59.8	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	279	602
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Discovery Drive
Road Segment: Irvine Center Drive to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-27.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-31.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.3	53.2	51.5	45.4	54.0	54.6
Medium Trucks:	48.3	47.6	41.2	39.7	48.2	48.4
Heavy Trucks:	49.6	49.0	40.0	41.2	49.6	49.7
Vehicle Noise:	56.3	55.4	52.1	47.6	56.1	56.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	34	74
CNEL:	8	17	37	79

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Discovery Drive
Road Segment: Waterworks Way to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-59.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-63.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	22.0	20.9	19.2	13.1	21.7	22.3
Medium Trucks:	16.0	15.3	8.9	7.4	15.8	16.1
Heavy Trucks:	17.3	16.7	7.7	8.9	17.3	17.4
Vehicle Noise:	24.0	23.1	19.8	15.3	23.8	24.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: East Yale Loop
Road Segment: Alton Parkway to Witherspoon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	899	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.3	59.5	53.5	62.1	62.7
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	57.7	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	64.4	63.5	60.2	55.7	64.2	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	55	119	256
CNEL:	27	59	127	274

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: East Yale Loop
Road Segment: Osborn Street to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	842 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	56.0	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	57.4	56.8	47.7	49.0	57.3	57.5
Vehicle Noise:	64.1	63.2	59.9	55.4	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	53	114	245
CNEL:	26	57	122	262

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: East Yale Loop
Road Segment: Yale Avenue to Springbrook South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.4	53.9	54.1
Heavy Trucks:	55.3	54.8	45.7	47.0	55.3	55.4
Vehicle Noise:	62.1	61.2	57.9	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	180
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: East Yale Loop
Road Segment: Springbrook North to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.4	53.9	54.1
Heavy Trucks:	55.3	54.8	45.7	47.0	55.3	55.4
Vehicle Noise:	62.1	61.2	57.9	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	180
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: East Yale Loop
Road Segment: Woodspring to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.4	53.9	54.1
Heavy Trucks:	55.3	54.8	45.7	47.0	55.3	55.4
Vehicle Noise:	62.1	61.2	57.9	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	180
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: East Yale Loop
Road Segment: Barranca Parkway to Eastshore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.4	53.9	54.1
Heavy Trucks:	55.3	54.8	45.7	47.0	55.3	55.4
Vehicle Noise:	62.1	61.2	57.9	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	180
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Eastwood
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	198 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.89	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-25.13	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-29.09	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.0	56.0	54.2	48.2	56.8	57.4
Medium Trucks:	51.3	50.6	44.2	42.7	51.2	51.4
Heavy Trucks:	53.1	52.5	43.5	44.7	53.1	53.2
Vehicle Noise:	59.3	58.4	55.0	50.6	59.1	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	70
CNEL:	8	16	35	75

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Eastwood
Road Segment: Columbus to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	157 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.91	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-26.15	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-30.10	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	55.0	53.2	47.1	55.8	56.4
Medium Trucks:	50.3	49.6	43.2	41.7	50.1	50.4
Heavy Trucks:	52.1	51.5	42.5	43.7	52.1	52.2
Vehicle Noise:	58.3	57.4	53.9	49.5	58.1	58.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	28	60
CNEL:	6	14	30	64

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: El Camino Real
Road Segment: Jamboree Road to Alliance (SR-261 Bridge)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,526 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.7
Heavy Trucks:	60.0	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	66.7	65.8	62.5	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	364
CNEL:	39	84	181	390

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: El Camino Real North
Road Segment: El Camino Real to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	512 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.55	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.9	57.1	51.0	59.7	60.3
Medium Trucks:	53.9	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	55.2	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	61.9	61.0	57.7	53.2	61.7	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	176
CNEL:	19	41	87	188

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Fairbanks
Road Segment: Alton Parkway to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	215 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-8.13	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-25.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-29.32	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	58.0	56.2	50.1	58.8	59.4
Medium Trucks:	53.0	52.3	46.0	44.4	52.9	53.1
Heavy Trucks:	54.3	53.7	44.7	45.9	54.3	54.4
Vehicle Noise:	61.0	60.1	56.9	52.3	60.8	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	92
CNEL:	10	21	46	98

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Fairbanks
Road Segment: Irvine Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-59.51	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-63.47	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	24.9	23.8	22.0	16.0	24.6	25.2
Medium Trucks:	18.9	18.2	11.8	10.3	18.7	19.0
Heavy Trucks:	20.2	19.6	10.5	11.8	20.1	20.3
Vehicle Noise:	26.9	26.0	22.7	18.2	26.7	27.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Fairchild Road
Road Segment: MacArthur Boulevard to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.2	60.1	58.4	52.3	60.9	61.6
Medium Trucks:	55.0	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	55.8	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	63.0	62.1	59.0	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	209
CNEL:	22	48	104	224

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Gateway Boulevard
Road Segment: Alton Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	314 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.3	53.2	51.4	45.4	54.0	54.6
Medium Trucks:	48.8	48.1	41.7	40.2	48.7	48.9
Heavy Trucks:	51.3	50.7	41.6	42.9	51.2	51.4
Vehicle Noise:	56.8	55.9	52.3	48.1	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Gateway Boulevard
Job Number: 15937
Road Segment: Spectrum Center Drive (Fortune Drive) to Alton Parkway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	545 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-2.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-20.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-24.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.7	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	51.2	50.5	44.1	42.6	51.1	51.3
Heavy Trucks:	53.7	53.1	44.0	45.3	53.6	53.8
Vehicle Noise:	59.2	58.3	54.7	50.5	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	54	116
CNEL:	12	27	57	123

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Gateway Boulevard
Road Segment: Irvine Center Drive to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	297 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	53.0	51.2	45.2	53.8	54.4
Medium Trucks:	48.5	47.9	41.5	40.0	48.4	48.7
Heavy Trucks:	51.0	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	56.5	55.7	52.0	47.9	56.4	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Great Park Boulevard
Road Segment: Sand Canyon to Ridge Valley

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,485 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.69	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.93	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.89	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.5	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	70.3	69.3	66.3	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	281	606
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Great Park Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	446 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-23.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-27.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	55.6	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	63.7	62.8	59.8	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	54	116	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Great Park Boulevard (EB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-43.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-60.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-64.44	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	27.6	26.5	24.8	18.7	27.3	27.9
Medium Trucks:	21.2	20.5	14.1	12.6	21.1	21.3
Heavy Trucks:	21.6	21.0	12.0	13.2	21.6	21.7
Vehicle Noise:	29.3	28.4	25.3	20.5	29.1	29.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Great Park Boulevard (WB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-43.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-60.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-64.44	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	27.6	26.5	24.8	18.7	27.3	27.9
Medium Trucks:	21.2	20.5	14.1	12.6	21.1	21.3
Heavy Trucks:	21.6	21.0	12.0	13.2	21.6	21.7
Vehicle Noise:	29.3	28.4	25.3	20.5	29.1	29.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: University Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,568 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.00	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-17.24	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-21.19	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.9	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	70.9	70.0	66.9	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	195	420
CNEL:	45	97	209	451

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Michelson Drive to Coronado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,046 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.08	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.2
Heavy Trucks:	62.0	61.4	52.3	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	537
CNEL:	58	124	268	576

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: San Marino to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.1	60.4	54.0	52.5	61.0	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.2	68.2	65.1	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	533
CNEL:	57	123	265	572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Coronado to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,980 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	69.1	68.2	65.0	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	244	526
CNEL:	56	121	262	564

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: San Carlo to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.1	60.4	54.0	52.5	61.0	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.2	68.2	65.1	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	533
CNEL:	57	123	265	572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Main Street to San Carlo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,980 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	69.1	68.2	65.0	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	244	526
CNEL:	56	121	262	564

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Alton Parkway to San Leon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	68.3	67.4	64.2	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	100	216	466
CNEL:	50	108	232	499

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: San Juan to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	68.3	67.4	64.2	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	100	216	466
CNEL:	50	108	232	499

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: San Leon to San Juan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,584 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	210	453
CNEL:	49	105	226	486

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	825 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.0	57.4	48.4	49.7	58.0	58.1
Vehicle Noise:	65.3	64.4	61.2	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	68	146	315

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Deerfield Avenue to Poplar Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	825 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.0	57.4	48.4	49.7	58.0	58.1
Vehicle Noise:	65.3	64.4	61.2	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	68	146	315

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,345 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.3	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	60.1	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	67.4	66.5	63.3	58.6	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	189	406
CNEL:	44	94	202	436

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Bridge Road to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,221 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	67.0	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	381
CNEL:	41	88	190	409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Paseo Westpark to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Poplar Street to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.44	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-20.68	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-24.64	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.3	58.7	49.7	51.0	59.3	59.4
Vehicle Noise:	66.6	65.7	62.5	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	133	286
CNEL:	31	66	143	307

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: California Avenue to Berkeley Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Culver Drive to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Berkeley to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvard Avenue
Road Segment: Warner Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	908 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.4	57.9	48.8	50.1	58.4	58.5
Vehicle Noise:	65.7	64.8	61.6	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	313
CNEL:	34	72	156	335

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Hicks Canyon Drive
Road Segment: Delamesa to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.27	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	75.75	-25.51	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	81.57	-29.46	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.7	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	50.0	49.3	42.9	41.4	49.8	50.1
Heavy Trucks:	51.8	51.2	42.2	43.4	51.8	51.9
Vehicle Noise:	58.0	57.1	53.6	49.3	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Hornet (5th St)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-40.23	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-57.47	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-61.43	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	19.1	18.1	16.3	10.3	18.9	19.5
Medium Trucks:	14.0	13.3	6.9	5.4	13.9	14.1
Heavy Trucks:	17.2	16.6	7.6	8.8	17.2	17.3
Vehicle Noise:	22.0	21.2	17.3	13.4	21.9	22.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Hubble
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	173 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.01	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.25	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-28.21	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.4	51.3	49.5	43.5	52.1	52.7
Medium Trucks:	47.2	46.5	40.2	38.6	47.1	47.3
Heavy Trucks:	50.4	49.8	40.8	42.0	50.4	50.5
Vehicle Noise:	55.2	54.4	50.5	46.6	55.1	55.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	18	38
CNEL:	4	9	19	40

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: SR-133 NB Off- Ramp to Ridge Valley (O Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,308 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	68.0	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	501	1,079
CNEL:	116	250	539	1,161

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: SR-133 SB Off-Ramp to SR-133 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,226 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	53.9	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,061
CNEL:	114	246	530	1,142

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Sand Canyon to SR-133 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,589 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.73	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.51	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.47	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.1	70.8	71.4
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.9	54.8	56.1	64.4	64.6
Vehicle Noise:	72.6	71.7	68.7	63.8	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	249	536	1,156
CNEL:	124	268	577	1,243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Merit to Alton

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,813	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	62.9	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	969
CNEL:	104	225	484	1,042

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Journey to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,822 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	71.1	70.2	67.3	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	451	971
CNEL:	104	225	485	1,044

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,533 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	419	903
CNEL:	97	209	451	972

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Pusan Way to Chinon (B Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,442 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.3	61.7	55.3	53.7	62.2	62.4
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	409	882
CNEL:	95	204	440	948

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Palo Lado to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,236	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.1	69.2	66.3	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	831
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Culver Drive to Palo Lado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,285 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.4	53.7	62.1	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	391	843
CNEL:	91	195	421	907

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Old Myford Road to Market Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,186	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.57	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.0	69.1	66.2	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	380	819
CNEL:	88	190	409	881

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Bosque (LY Street) to Modjeska

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,302 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	847
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Jamboree Road to Old Myford Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,186 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.57	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.0	69.1	66.2	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	380	819
CNEL:	88	190	409	881

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Market Place to SR-261 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,178 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	61.9
Heavy Trucks:	61.9	61.3	52.2	53.5	61.8	62.0
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	817
CNEL:	88	189	408	879

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Jeffrey Road to Groveland

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,335 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.33	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.2
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	856
CNEL:	92	198	427	920

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Bake Parkway to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,964 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.13	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.09	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.4	60.7	54.3	52.8	61.3	61.5
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.6	68.6	65.7	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	762
CNEL:	82	177	381	820

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Independence Way (The Groves)/The Groves to JeffreyRoad

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,145 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.75	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	375	809
CNEL:	87	187	404	870

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Chinon (B Street) to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,153	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.51	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.73	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.69	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	811
CNEL:	87	188	405	872

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: SR-261 NB Off-Ramp to Central Park

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,087 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.8	68.9	66.0	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	369	794
CNEL:	85	184	396	854

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Pueblo Norte to Independence Way (The Groves)/ Parkwood

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,005 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.7	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	167	359	773
CNEL:	83	179	386	831

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Yale Avenue to Pueblo Norte

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,005 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.7	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	167	359	773
CNEL:	83	179	386	831

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Modjeska to Pusan Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,046 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.7	68.8	65.9	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	783
CNEL:	84	182	391	843

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Central Park Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,823 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	69.2	68.3	65.4	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	156	337	726
CNEL:	78	168	362	781

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Parker to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,601 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	143	309	665
CNEL:	72	154	332	716

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Boulevard
Road Segment: Alton Parkway to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,411 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	59.9	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	68.1	67.2	64.3	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	284	611
CNEL:	66	142	305	658

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Irvine Center Drive
Job Number: 15937
Road Segment: Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,176 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.61	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.63	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.58	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	421	908
CNEL:	98	210	453	975

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Orange Tree to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,401 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.4	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	743
CNEL:	80	172	370	798

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: I-405 SB Off-Ramp to Research

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,904 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.22	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.02	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.97	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	855
CNEL:	92	198	426	919

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Irvine Valley College to Orange Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,401 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.4	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	743
CNEL:	80	172	370	798

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Fontaine Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,285 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.18	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.06	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.01	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.5	60.9	51.8	53.1	61.4	61.6
Vehicle Noise:	69.2	68.3	65.2	60.4	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	334	719
CNEL:	77	166	358	772

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Culver Drive to Deerwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,426 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	80	173	373	803

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Deerwood to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,368	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.3	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	736
CNEL:	79	170	367	791

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Yale Avenue to Fontaine Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,236 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.0	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.1	60.3	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	329	708
CNEL:	76	164	353	761

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Jeffrey Road to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,401 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.4	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	743
CNEL:	80	172	370	798

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Alton Parkway to Spectrum

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,013 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	307	660
CNEL:	71	153	329	710

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Spectrum to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.65	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.59	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.6	60.9	61.0
Vehicle Noise:	68.6	67.7	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	307	662
CNEL:	71	153	330	711

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Hearthstone to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,145 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	320	689
CNEL:	74	159	344	740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Charter to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,691 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	59.7	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	67.9	67.0	63.9	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	588
CNEL:	63	136	293	632

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Jamboree Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,426 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	80	173	373	803

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Pacifica to Entertainment (Enterprise/Fortune)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,104 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.82	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.9	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	316	680
CNEL:	73	157	339	731

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,667 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	59.7	59.0	52.6	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	582
CNEL:	63	135	290	626

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Harvard Avenue to Hearthstone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,145 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	320	689
CNEL:	74	159	344	740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Research to Hubble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,584 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.6	66.7	63.6	58.8	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	563
CNEL:	60	130	281	605

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Barranca Parkway to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,279 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.5	57.9	51.5	50.0	58.4	58.6
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	66.7	65.7	62.7	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	488
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,584 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.6	66.7	63.6	58.8	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	563
CNEL:	60	130	281	605

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Discovery to Charter

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,378 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.5	56.4	65.0	65.6
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.3	58.7	49.6	50.9	59.3	59.4
Vehicle Noise:	67.0	66.1	63.0	58.2	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	111	238	513
CNEL:	55	119	256	551

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,559 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.67	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.8	63.0	56.9	65.6	66.2
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.5	66.6	63.6	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	557
CNEL:	60	129	278	598

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Muller to Tesla

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,518	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.1
Medium Trucks:	59.3	58.6	52.2	50.7	59.2	59.4
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.4	66.5	63.4	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	547
CNEL:	59	127	273	588

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Sand Canyon Avenue to Odyssey

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,493 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	67.3	66.4	63.4	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	251	541
CNEL:	58	125	270	581

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Tesla to Scientific Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,328 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.18	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.8	65.9	62.9	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	232	501
CNEL:	54	116	250	538

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Scientific Way to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,353 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.6
Medium Trucks:	58.8	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	235	507
CNEL:	54	117	253	544

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Gateway Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,213 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.57	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.3	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	58.7	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	66.4	65.5	62.5	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	219	471
CNEL:	51	109	235	506

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Laguna Canyon Road to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,238 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.5	65.6	62.6	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	477
CNEL:	51	111	238	513

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive
Road Segment: Odyssey to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,254 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	58.9	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	66.6	65.7	62.6	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	224	482
CNEL:	52	112	240	518

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Irvine Center Drive (Edinger)
Road Segment: Redhill Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,376 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.6	61.1	52.0	53.3	61.6	61.7
Vehicle Noise:	69.4	68.4	65.4	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	738
CNEL:	79	171	368	792

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: I-5 SB Off-Ramp to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,486	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.57	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.67	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.6	63.6	72.2	72.8
Medium Trucks:	65.8	65.2	58.8	57.3	65.7	66.0
Heavy Trucks:	65.9	65.3	56.3	57.5	65.9	66.0
Vehicle Noise:	74.0	73.1	70.2	65.3	73.8	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	151	326	702	1,512
CNEL:	163	350	755	1,627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	73,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	6,056	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.00	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.24	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.20	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.3	72.2	70.5	64.4	73.0	73.6
Medium Trucks:	66.7	66.0	59.6	58.1	66.6	66.8
Heavy Trucks:	66.7	66.1	57.1	58.3	66.7	66.8
Vehicle Noise:	74.9	73.9	71.0	66.1	74.7	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	164	353	760	1,638
CNEL:	176	380	818	1,762

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Walnut Avenue to Michelle Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,538 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.7	71.4	72.0
Medium Trucks:	65.0	64.3	58.0	56.4	64.9	65.1
Heavy Trucks:	65.1	64.5	55.4	56.7	65.0	65.2
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	133	287	618	1,332
CNEL:	143	309	665	1,433

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: I-405 NB Off-Ramp to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	73,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	6,056	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.00	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.24	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.20	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.7	73.6	71.8	65.8	74.4	75.0
Medium Trucks:	68.1	67.4	61.0	59.5	67.9	68.2
Heavy Trucks:	68.1	67.5	58.5	59.7	68.1	68.2
Vehicle Noise:	76.2	75.3	72.4	67.5	76.0	76.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	253	545	1,174	2,530
CNEL:	272	586	1,263	2,722

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Michelle Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,538 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.7	71.4	72.0
Medium Trucks:	65.0	64.3	58.0	56.4	64.9	65.1
Heavy Trucks:	65.1	64.5	55.4	56.7	65.0	65.2
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	133	287	618	1,332
CNEL:	143	309	665	1,433

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Main Street to Kelvin Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,049	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.21	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.03	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.98	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.9	72.8	71.1	65.0	73.6	74.2
Medium Trucks:	67.3	66.6	60.2	58.7	67.2	67.4
Heavy Trucks:	67.3	66.7	57.7	58.9	67.3	67.4
Vehicle Noise:	75.5	74.5	71.6	66.7	75.3	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	224	483	1,040	2,241
CNEL:	241	519	1,119	2,411

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	74,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,130 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	130 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	88.792
Medium Trucks:	88.747
Heavy Trucks:	88.792

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.05	-3.84	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.19	-3.84	-1.20	*-4.96*	0.000	0.000
Heavy Trucks:	86.40	-16.14	-3.84	-1.20	*-5.14*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	69.0	62.9	71.5	72.1
Medium Trucks:	65.2	64.5	58.1	56.6	65.1	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.4	72.4	69.5	64.6	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	179	385	830	1,788
CNEL:	192	414	893	1,923

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Kelvin Avenue to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,744	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.94	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.30	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.26	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.6	72.5	70.8	64.7	73.3	74.0
Medium Trucks:	67.0	66.3	60.0	58.4	66.9	67.1
Heavy Trucks:	67.0	66.4	57.4	58.7	67.0	67.1
Vehicle Noise:	75.2	74.3	71.3	66.4	75.0	75.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	215	463	998	2,150
CNEL:	231	498	1,074	2,313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,678	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.88	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.36	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.32	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.5	72.5	70.7	64.7	73.3	73.9
Medium Trucks:	66.9	66.3	59.9	58.4	66.8	67.1
Heavy Trucks:	67.0	66.4	57.3	58.6	67.0	67.1
Vehicle Noise:	75.1	74.2	71.2	66.4	74.9	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	213	459	989	2,130
CNEL:	229	494	1,064	2,291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Birch Street to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,325	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.40	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.9	70.9	68.0	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	503	1,083
CNEL:	116	251	541	1,165

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,927 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.12	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.12	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.08	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.3	68.6	62.5	71.1	71.8
Medium Trucks:	64.8	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	64.8	64.2	55.2	56.5	64.8	64.9
Vehicle Noise:	73.0	72.1	69.1	64.2	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	264	570	1,227
CNEL:	132	284	613	1,320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Alton Parkway to Beckman

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,447	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.66	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.58	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.54	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.3	72.3	70.5	64.4	73.1	73.7
Medium Trucks:	66.7	66.0	59.7	58.1	66.6	66.8
Heavy Trucks:	66.7	66.2	57.1	58.4	66.7	66.9
Vehicle Noise:	74.9	74.0	71.0	66.2	74.7	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	206	444	956	2,059
CNEL:	222	477	1,028	2,215

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Fairchild Road to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,094	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.08	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.16	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.11	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	72.0	71.0	68.1	63.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	486	1,047
CNEL:	113	243	523	1,126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Beckman to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,265	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.48	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.76	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.72	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.1	70.3	64.3	72.9	73.5
Medium Trucks:	66.5	65.9	59.5	58.0	66.4	66.7
Heavy Trucks:	66.6	66.0	56.9	58.2	66.6	66.7
Vehicle Noise:	74.7	73.8	70.8	66.0	74.5	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	200	431	930	2,003
CNEL:	215	464	1,000	2,155

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: I-5 NB Off-Ramp to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,142 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.35	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.89	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.85	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.0	72.0	70.2	64.1	72.8	73.4
Medium Trucks:	66.4	65.7	59.4	57.8	66.3	66.5
Heavy Trucks:	66.4	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.6	73.7	70.7	65.8	74.4	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	196	423	912	1,964
CNEL:	211	455	981	2,113

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Campus Drive to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,317 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.38	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.85	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.81	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	236	509	1,097
CNEL:	118	254	548	1,180

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: El Camino Real to West Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,142	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.35	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.89	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.85	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.0	72.0	70.2	64.1	72.8	73.4
Medium Trucks:	66.4	65.7	59.4	57.8	66.3	66.5
Heavy Trucks:	66.4	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.6	73.7	70.7	65.8	74.4	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	196	423	912	1,964
CNEL:	211	455	981	2,113

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: West Drive to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,142	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.35	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.89	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.85	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.0	72.0	70.2	64.1	72.8	73.4
Medium Trucks:	66.4	65.7	59.4	57.8	66.3	66.5
Heavy Trucks:	66.4	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.6	73.7	70.7	65.8	74.4	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	196	423	912	1,964
CNEL:	211	455	981	2,113

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,779	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.95	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.29	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.24	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.6	69.8	63.7	72.4	73.0
Medium Trucks:	66.0	65.3	59.0	57.4	65.9	66.1
Heavy Trucks:	66.0	65.5	56.4	57.7	66.0	66.2
Vehicle Noise:	74.2	73.3	70.3	65.4	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	185	398	857	1,847
CNEL:	199	428	922	1,987

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Koll Center to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,900	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,714	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.51	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.72	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.68	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.2
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	71.4	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	445	959
CNEL:	103	222	479	1,032

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: MacArthur Boulevard to Koll Center

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,830 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.69	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.54	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.50	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.4	62.7	56.3	54.8	63.3	63.5
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.6	70.6	67.7	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	213	458	986
CNEL:	106	229	493	1,061

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Irvine Boulevard to Portola Pakway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.6
Vehicle Noise:	69.7	68.8	65.8	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	361	777
CNEL:	84	180	388	836

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Warner Avenue to Edinger Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	83,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,922 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.58	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-11.66	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-15.61	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	77.1	76.1	74.3	68.2	76.9	77.5
Medium Trucks:	70.5	69.9	63.5	61.9	70.4	70.6
Heavy Trucks:	70.5	70.0	60.9	62.2	70.5	70.7
Vehicle Noise:	78.7	77.8	74.8	69.9	78.5	79.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	236	509	1,096	2,361
CNEL:	254	547	1,179	2,540

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	68,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,668 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.71	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.53	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.48	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.3	75.2	73.4	67.4	76.0	76.6
Medium Trucks:	69.7	69.0	62.6	61.1	69.5	69.8
Heavy Trucks:	69.7	69.1	60.1	61.3	69.7	69.8
Vehicle Noise:	77.8	76.9	74.0	69.1	77.6	78.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	207	445	959	2,066
CNEL:	222	479	1,032	2,223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jamboree Road
Road Segment: Edinger Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	64,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,280 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.40	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.83	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.79	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.9	74.9	73.1	67.1	75.7	76.3
Medium Trucks:	69.3	68.7	62.3	60.8	69.2	69.5
Heavy Trucks:	69.4	68.8	59.7	61.0	69.4	69.5
Vehicle Noise:	77.5	76.6	73.6	68.8	77.3	77.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	197	425	915	1,971
CNEL:	212	457	984	2,120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Walnut Avenue to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,166 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.2
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.6	69.7	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	97	208	448	966

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: I-5 NB Off-Ramp to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,703 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.77	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.47	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.42	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	64.3	63.8	54.7	56.0	64.3	64.5
Vehicle Noise:	71.6	70.7	67.5	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	213	460	990
CNEL:	106	229	493	1,062

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Poplar (Meadows) to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,680 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.4	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	62.3	53.2	54.5	62.9	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	385	829
CNEL:	89	192	413	889

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,647 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.8	62.2	53.2	54.5	62.8	62.9
Vehicle Noise:	70.1	69.2	66.0	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	824
CNEL:	88	190	410	884

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Irvine Center Drive to Poplar (Meadows)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,539 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.54	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.70	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.66	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	375	808
CNEL:	87	187	402	866

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: I-405 NB Off-Ramp to Quail Creek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,663 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	384	826
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Barranca Parkway to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,581 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.0	69.1	65.9	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	378	814
CNEL:	87	188	405	873

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Quail Creek to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,663	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	384	826
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Irvine Valley College to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,482 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	69.9	69.0	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	371	799
CNEL:	86	185	398	857

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Trabuco Road to Hideaway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,945	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.1	68.2	65.1	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	332	714
CNEL:	77	165	356	766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Hideaway to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,945 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.1	68.2	65.1	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	332	714
CNEL:	77	165	356	766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Roosevelt to Grove

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,069 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.92	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.32	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.28	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.7	68.8	65.7	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	346	745
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Grove to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,069 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.92	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.32	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.28	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.7	68.8	65.7	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	346	745
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,186 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.4
Medium Trucks:	59.8	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	586
CNEL:	63	135	292	628

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Encore to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	858	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-19.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-23.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	314
CNEL:	34	73	156	337

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeffrey Road
Road Segment: Irvine Boulevard to Encore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	858	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-19.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-23.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	314
CNEL:	34	73	156	337

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeronimo Road
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	635 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.3	61.2	59.5	53.4	62.0	62.6
Medium Trucks:	56.1	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	64.1	63.2	60.1	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	114	246
CNEL:	26	57	123	264

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jeronimo Road
Road Segment: Alton Parkway to Goodyear

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	594 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	55.8	55.1	48.7	47.2	55.6	55.9
Heavy Trucks:	56.6	56.0	47.0	48.2	56.6	56.7
Vehicle Noise:	63.8	62.9	59.8	55.1	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	109	236
CNEL:	25	54	117	253

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Old Laguna Canyon Road to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,688 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.8	70.5	71.1
Medium Trucks:	64.1	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.1	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	539	1,160
CNEL:	125	269	579	1,248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Laguna Canyon Freeway to Quail Hill Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	825 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.0	57.0	65.6	66.2
Medium Trucks:	59.3	58.6	52.2	50.7	59.2	59.4
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	67.5	66.5	63.6	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	190	410
CNEL:	44	95	205	441

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Discovery to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	421 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-6.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-23.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-27.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	56.4	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	64.5	63.6	60.6	55.8	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	121	262
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: I-405 Overcrossing to Pasteur

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	454 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.84	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-23.08	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-27.03	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.6	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.1	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	65.8	64.8	61.8	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	55	118	253
CNEL:	27	59	126	272

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Irvine Center Drive to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	322 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-7.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-24.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-28.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	55.2	54.5	48.1	46.6	55.1	55.3
Heavy Trucks:	55.2	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	63.4	62.4	59.5	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	24	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Quail Hill Parkway to I-405 Overcrossing

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	454 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.84	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-23.08	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-27.03	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.6	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.1	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	65.8	64.8	61.8	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	55	118	253
CNEL:	27	59	126	272

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Pasteur to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-23.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-27.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.1	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	65.2	64.3	61.4	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	292
CNEL:	31	68	146	314

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Waterworks to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	388 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-6.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-24.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-28.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.5	59.8	53.7	62.3	62.9
Medium Trucks:	56.0	55.3	49.0	47.4	55.9	56.1
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	64.2	63.2	60.3	55.4	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	115	248
CNEL:	27	57	124	267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	421 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-6.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-23.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-27.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	56.4	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	64.5	63.6	60.6	55.8	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	121	262
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Laguna Canyon Road
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	338 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-7.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-24.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-28.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	55.4	54.7	48.4	46.8	55.3	55.5
Heavy Trucks:	55.4	54.8	45.8	47.1	55.4	55.5
Vehicle Noise:	63.6	62.7	59.7	54.8	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	113	243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lake Forest Drive
Road Segment: Hidden Canyon to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,196 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	208	448
CNEL:	48	104	223	481

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lake Forest Drive
Road Segment: Bake Parkway to Hidden Canyon (Romano)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,196 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	208	448
CNEL:	48	104	223	481

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lake Forest Drive
Road Segment: Tesla to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	883	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-20.19	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-24.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	56.9	56.2	49.9	48.3	56.8	57.0
Heavy Trucks:	57.3	56.8	47.7	49.0	57.3	57.4
Vehicle Noise:	65.1	64.1	61.1	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	381
CNEL:	41	88	190	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lake Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	479 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.60	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	70.80	-19.84	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	77.97	-23.79	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.8	53.0	47.0	55.6	56.2
Medium Trucks:	50.7	50.0	43.6	42.1	50.6	50.8
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	58.7	57.9	54.0	50.1	58.6	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	40	86
CNEL:	9	20	43	92

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lynx
Road Segment: Irvine Boulevard to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-40.23	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-57.47	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-61.43	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	19.1	18.1	16.3	10.3	18.9	19.5
Medium Trucks:	14.0	13.3	6.9	5.4	13.9	14.1
Heavy Trucks:	17.2	16.6	7.6	8.8	17.2	17.3
Vehicle Noise:	22.0	21.2	17.3	13.4	21.9	22.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: I-405 SB Off-Ramp to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,274	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.11	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-14.13	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-18.09	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.2	73.2	71.4	65.3	74.0	74.6
Medium Trucks:	67.5	66.8	60.4	58.9	67.3	67.6
Heavy Trucks:	67.1	66.5	57.5	58.8	67.1	67.2
Vehicle Noise:	75.7	74.8	71.9	66.9	75.5	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	232	501	1,079	2,324
CNEL:	250	539	1,162	2,503

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Main Street to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,150 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	2.98	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-14.26	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-18.21	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.1	73.0	71.3	65.2	73.8	74.4
Medium Trucks:	67.3	66.7	60.3	58.7	67.2	67.4
Heavy Trucks:	67.0	66.4	57.4	58.6	67.0	67.1
Vehicle Noise:	75.6	74.6	71.8	66.8	75.4	75.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	228	491	1,058	2,279
CNEL:	245	529	1,139	2,454

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: I-405 NB Off-Ramp and I-405 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,977 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	2.79	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-14.44	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-18.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.9	72.8	71.1	65.0	73.6	74.2
Medium Trucks:	67.1	66.5	60.1	58.6	67.0	67.3
Heavy Trucks:	66.8	66.2	57.2	58.4	66.8	66.9
Vehicle Noise:	75.4	74.5	71.6	66.6	75.2	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	221	477	1,028	2,215
CNEL:	239	514	1,107	2,385

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Jamboree Road to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,127 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.00	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.24	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.19	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.4	68.5	65.3	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	744
CNEL:	80	172	370	798

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Fairchild Road to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,127 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.00	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.24	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.19	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.4	68.5	65.3	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	744
CNEL:	80	172	370	798

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Fitch to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,374 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.33	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.91	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.86	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.1	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	793
CNEL:	85	183	395	851

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Michelson Drive to Douglas

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,987	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.80	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-14.44	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-18.39	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.7	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.0	70.1	66.9	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	243	524	1,130
CNEL:	121	261	562	1,212

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Douglas to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,987	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.80	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-14.44	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-18.39	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.7	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.0	70.1	66.9	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	243	524	1,130
CNEL:	121	261	562	1,212

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Skypark to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,459	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.96	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.28	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.24	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.5	60.9	51.9	53.2	61.5	61.6
Vehicle Noise:	68.8	67.9	64.7	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	298	642
CNEL:	69	148	320	689

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Redhill Avenue to Skypark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,153 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.6
Vehicle Noise:	67.8	66.9	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	269	580
CNEL:	62	134	289	622

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Birch Street to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,510	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-17.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-21.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	58.2	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.0	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	66.2	65.3	62.2	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	212	458
CNEL:	49	106	228	491

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: MacArthur Boulevard
Road Segment: Campus Drive to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,601 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.09	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-17.15	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-21.10	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.0	60.5	51.4	52.7	61.0	61.1
Vehicle Noise:	68.3	67.4	64.2	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	346	745
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Gillette Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,681 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.33	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.91	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.86	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.1	68.2	65.1	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	316	681
CNEL:	73	157	339	730

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: MacArthur Boulevard to Mercantile

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,681 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.33	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.91	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.86	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.1	68.2	65.1	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	316	681
CNEL:	73	157	339	730

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Executive Park to MacArthur Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,980 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.3	58.7	52.3	50.8	59.2	59.4
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.4	66.5	63.4	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	548
CNEL:	59	127	273	588

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Von Karman Avenue to Cartwright

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,766 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	236	508
CNEL:	54	117	253	545

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: McDurmott to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,087 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.5	66.2
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	264	568
CNEL:	61	131	283	609

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Red Hill Avenue to Executive Circle

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,980 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.3	58.7	52.3	50.8	59.2	59.4
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.4	66.5	63.4	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	548
CNEL:	59	127	273	588

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Jamboree Road to Union

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,865 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.2	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	245	527
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,163 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.7	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.8	65.8	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	369
CNEL:	40	85	184	396

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Siglo to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,766 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	236	508
CNEL:	54	117	253	545

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Veneto to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,865	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.2	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	245	527
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Paseo Westpark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	957	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.8	57.2	50.8	49.3	57.7	57.9
Heavy Trucks:	58.7	58.1	49.0	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Main Street
Road Segment: Harvard Avenue to San Mateo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	957	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.8	57.2	50.8	49.3	57.7	57.9
Heavy Trucks:	58.7	58.1	49.0	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Sand Canyon Avenue to Ridge Valley (O Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,188 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.69	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	77.72	-17.93	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	82.99	-21.89	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.6	65.3	65.9
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	67.5	66.6	63.4	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	333
CNEL:	36	77	165	356

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Alton Parkway to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-59.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-63.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	22.0	20.9	19.2	13.1	21.7	22.3
Medium Trucks:	16.0	15.3	8.9	7.4	15.8	16.1
Heavy Trucks:	17.3	16.7	7.7	8.9	17.3	17.4
Vehicle Noise:	24.0	23.1	19.8	15.3	23.8	24.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Lynx to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-59.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-63.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	22.0	20.9	19.2	13.1	21.7	22.3
Medium Trucks:	16.0	15.3	8.9	7.4	15.8	16.1
Heavy Trucks:	17.3	16.7	7.7	8.9	17.3	17.4
Vehicle Noise:	24.0	23.1	19.8	15.3	23.8	24.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: County Access to Treble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	264 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-24.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-28.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.0	56.0	54.2	48.2	56.8	57.4
Medium Trucks:	51.0	50.3	44.0	42.4	50.9	51.1
Heavy Trucks:	52.3	51.7	42.7	44.0	52.3	52.4
Vehicle Noise:	59.0	58.2	54.9	50.3	58.9	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	121

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Ridge Valley (O Street) to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	487 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	53.7	53.0	46.6	45.1	53.6	53.8
Heavy Trucks:	55.0	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	61.7	60.8	57.5	53.0	61.5	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Skyhawk to County Access

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	264 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-24.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-28.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.0	56.0	54.2	48.2	56.8	57.4
Medium Trucks:	51.0	50.3	44.0	42.4	50.9	51.1
Heavy Trucks:	52.3	51.7	42.7	44.0	52.3	52.4
Vehicle Noise:	59.0	58.2	54.9	50.3	58.9	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	121

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	58 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-13.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-31.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-35.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.4	49.4	47.6	41.6	50.2	50.8
Medium Trucks:	44.4	43.7	37.4	35.8	44.3	44.5
Heavy Trucks:	45.7	45.1	36.1	37.4	45.7	45.8
Vehicle Noise:	52.4	51.6	48.3	43.7	52.3	52.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	41
CNEL:	4	9	20	44

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Marine Way
Road Segment: Treble to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-59.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-63.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	22.0	20.9	19.2	13.1	21.7	22.3
Medium Trucks:	16.0	15.3	8.9	7.4	15.8	16.1
Heavy Trucks:	17.3	16.7	7.7	8.9	17.3	17.4
Vehicle Noise:	24.0	23.1	19.8	15.3	23.8	24.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: McGaw Avenue
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	53.9	53.3	46.9	45.3	53.8	54.0
Heavy Trucks:	55.8	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	61.9	61.0	57.6	53.2	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	176
CNEL:	19	41	87	188

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: McGaw Avenue
Road Segment: Red Hill Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	693 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.6	58.5	56.8	50.7	59.3	59.9
Medium Trucks:	53.8	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	55.7	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	61.8	60.9	57.5	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	81	173
CNEL:	19	40	86	185

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: McGaw Avenue
Road Segment: Daimler to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	536	vehicles
Vehicle Speed:	35	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-20.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-24.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	57.4	55.7	49.6	58.2	58.8
Medium Trucks:	52.7	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	54.6	54.0	44.9	46.2	54.5	54.7
Vehicle Noise:	60.7	59.8	56.4	52.0	60.5	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	31	68	146
CNEL:	16	34	72	156

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: McGaw Avenue
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	248 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.1	54.1	52.3	46.2	54.9	55.5
Medium Trucks:	49.3	48.7	42.3	40.8	49.2	49.5
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	57.4	56.5	53.0	48.6	57.2	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	87
CNEL:	9	20	43	93

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Meadowood
Road Segment: Culver Drive to Canyonwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,400	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	858	vehicles
Vehicle Speed:	25	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-0.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.4	53.6	47.5	56.2	56.8
Medium Trucks:	51.3	50.6	44.2	42.7	51.1	51.4
Heavy Trucks:	54.5	53.9	44.8	46.1	54.5	54.6
Vehicle Noise:	59.3	58.5	54.6	50.6	59.1	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	55	118
CNEL:	13	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Meridian
Road Segment: Spectrum to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.9	50.8	49.1	43.0	51.6	52.2
Medium Trucks:	46.4	45.7	39.4	37.8	46.3	46.5
Heavy Trucks:	48.9	48.3	39.3	40.5	48.9	49.0
Vehicle Noise:	54.4	53.5	49.9	45.7	54.2	54.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	27	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Meridian
Road Segment: Alton Parkway to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-25.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-29.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.8	49.7	48.0	41.9	50.5	51.1
Medium Trucks:	45.3	44.6	38.2	36.7	45.2	45.4
Heavy Trucks:	47.8	47.2	38.1	39.4	47.7	47.9
Vehicle Noise:	53.3	52.4	48.8	44.6	53.1	53.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	22	47
CNEL:	5	11	23	50

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Merit
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	421 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.16	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-20.40	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-24.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.2	55.1	53.4	47.3	55.9	56.6
Medium Trucks:	51.1	50.4	44.0	42.5	50.9	51.2
Heavy Trucks:	54.3	53.7	44.6	45.9	54.2	54.4
Vehicle Noise:	59.1	58.3	54.3	50.4	58.9	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	73

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Riparian to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,460	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.8	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	66.5	65.6	62.3	57.8	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Almond Tree Lane to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	677 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.14	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.38	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-24.33	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.4
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.0	65.1	61.8	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	92	198
CNEL:	21	46	98	212

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Von Karman Avenue to Obsidian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,452 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	66.5	65.6	62.3	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Parkside to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,279	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.9	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	65.9	65.0	61.7	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Gillman to Seton/Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	677 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.14	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.38	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-24.33	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.4
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.0	65.1	61.8	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	92	198
CNEL:	21	46	98	212

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Carlson to Prince

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,460 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.20	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	77.72	-17.03	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	82.99	-20.99	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.1	60.4	54.3	62.9	63.5
Medium Trucks:	57.2	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.5	57.9	48.8	50.1	58.5	58.6
Vehicle Noise:	65.2	64.3	61.0	56.5	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	348
CNEL:	37	80	173	373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: MacArthur Boulevard to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,452 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	66.5	65.6	62.3	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Harvard Avenue to Parkside

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,279 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.9	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	65.9	65.0	61.7	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Bixby to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	957 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.6	59.8	53.8	62.4	63.0
Medium Trucks:	56.6	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	57.9	57.3	48.3	49.6	57.9	58.0
Vehicle Noise:	64.6	63.7	60.5	55.9	64.5	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	57	124	267
CNEL:	29	62	133	286

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Jamboree Road to Carlson

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,460 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.20	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.03	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.99	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.7	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	61.1	60.5	51.4	52.7	61.0	61.2
Vehicle Noise:	67.8	66.9	63.6	59.1	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	415
CNEL:	44	96	206	444

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Teller to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,708 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.88	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.35	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.31	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.4	59.8	53.4	51.8	60.3	60.5
Heavy Trucks:	61.7	61.2	52.1	53.4	61.7	61.8
Vehicle Noise:	68.5	67.6	64.3	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	214	460
CNEL:	49	106	229	493

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Jordan East to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	512 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.35	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-21.59	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-25.55	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.3	57.6	51.2	49.7	58.2	58.4
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.3	65.4	62.1	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	165
CNEL:	18	38	82	177

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Michelson Drive
Road Segment: Culver Drive to Angell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	677 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.14	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.38	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	82.99	-24.33	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.3	49.3	50.6	58.9	59.0
Vehicle Noise:	65.6	64.8	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	93	199
CNEL:	21	46	99	213

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Modjeska (A Street)
Road Segment: Portola Springs to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	891 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	27.659
Medium Trucks:	27.514
Heavy Trucks:	27.659

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.45	3.75	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	79.45	-19.69	3.79	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	84.25	-23.65	3.75	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	63.2	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	70.4	69.5	66.3	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	72	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Modjeska (A Street)
Road Segment: South of Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	165 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-9.78	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-27.01	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-30.97	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.3	58.3	56.5	50.4	59.1	59.7
Medium Trucks:	53.1	52.4	46.1	44.5	53.0	53.2
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	61.2	60.2	57.1	52.4	61.0	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	94
CNEL:	10	22	47	100

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Muirlands Boulevard
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,007 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	335
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Muirlands Boulevard
Road Segment: Alton Parkway to Sterling

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Muirlands Boulevard
Road Segment: Wrigley to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Newport Coast Drive
Road Segment: SR-73 NB Off-Ramp to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,196 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.8	54.7	63.3	63.9
Medium Trucks:	57.6	56.9	50.5	49.0	57.5	57.7
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	65.6	64.7	61.4	56.9	65.4	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	71	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Newport Coast Drive
Road Segment: Turtle Crest to Bonita Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	974 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.6	59.9	53.8	62.4	63.1
Medium Trucks:	56.7	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	64.7	63.8	60.5	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	270
CNEL:	29	62	134	289

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Nightmist
Road Segment: Sand Canyon Avenue to Tulip (Road C)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	743 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-18.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-22.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.0	57.0	55.2	49.1	57.8	58.4
Medium Trucks:	52.5	51.8	45.5	43.9	52.4	52.6
Heavy Trucks:	55.0	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	60.5	59.7	56.0	51.8	60.4	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	31	66	142
CNEL:	15	33	70	152

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Northwood
Road Segment: Yale Avenue to Savannah

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	371 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.16	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-22.40	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.36	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.8	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	54.0	53.3	47.0	45.4	53.9	54.1
Heavy Trucks:	55.8	55.3	46.2	47.5	55.8	56.0
Vehicle Noise:	62.0	61.1	57.7	53.3	61.8	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	50	107
CNEL:	11	25	53	114

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Northwood
Road Segment: Goldrush to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	248 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.92	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.16	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.12	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.0	56.9	55.2	49.1	57.8	58.4
Medium Trucks:	52.2	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	54.1	53.5	44.5	45.7	54.1	54.2
Vehicle Noise:	60.2	59.4	55.9	51.5	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	40	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Oak Canyon Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.00	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-22.24	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-26.20	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.3	55.2	63.8	64.4
Medium Trucks:	57.9	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	58.7	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	195
CNEL:	21	45	97	209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Pacifica
Road Segment: Gateway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	668 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.0	54.4	48.0	46.5	54.9	55.2
Heavy Trucks:	56.4	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	63.1	62.2	58.9	54.4	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	210
CNEL:	22	48	104	225

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Pacifica
Road Segment: Alton Parkway to Gateway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	53.5	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.8	54.3	45.2	46.5	54.8	54.9
Vehicle Noise:	61.6	60.7	57.4	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	83	178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Pacifica
Road Segment: Irvine Center Drive to Fortune Drive (Spectrum Center Drive)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	454 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-22.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.4	58.3	56.6	50.5	59.1	59.7
Medium Trucks:	53.4	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	54.7	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	61.4	60.5	57.2	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	75	162
CNEL:	17	37	81	174

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Pacifica
Road Segment: Meridian to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	198 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-8.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-25.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-29.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.7	53.0	46.9	55.5	56.1
Medium Trucks:	49.8	49.1	42.7	41.2	49.6	49.9
Heavy Trucks:	51.1	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	57.8	56.9	53.6	49.1	57.6	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	93
CNEL:	10	22	46	100

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Park Place
Road Segment: Christamon South to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	297 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	53.0	51.2	45.2	53.8	54.4
Medium Trucks:	48.5	47.9	41.5	40.0	48.4	48.7
Heavy Trucks:	51.0	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	56.5	55.7	52.0	47.9	56.4	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Portola Parkway
Job Number: 15937
Road Segment: Bee Canyon Access Road to Sand Canyon Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,477 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	70.0	69.1	66.1	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	281	604
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Jeffrey Road to Bee Canyon Access Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,477 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	70.0	69.1	66.1	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	281	604
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Arrowhead to Ridge Valley Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,262 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	69.3	68.4	65.4	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	544
CNEL:	59	126	272	586

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Sand Canyon Avenue to Arrowhead

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,262 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	69.3	68.4	65.4	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	544
CNEL:	59	126	272	586

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Portola Springs to SR-241 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-23.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-27.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.1	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	65.2	64.3	61.4	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	292
CNEL:	31	68	146	314

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Gatepark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,873	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	739
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: ETC-6 (SR-261) NB Off-Ramp to Gatepark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,873	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	739
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,873 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	739
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Jamboree Road to Bellevue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,873	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	739
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Bellevue to ETC-6 (SR-261) SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,873 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	739
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Yale Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,469 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	68.3	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	292	628
CNEL:	68	146	314	676

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Culver Drive to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,469	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	68.3	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	292	628
CNEL:	68	146	314	676

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Portola Parkway
Road Segment: Silverado to Portola Springs

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	627 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.1	57.4	51.0	49.5	58.0	58.2
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	66.3	65.3	62.4	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	158	341
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Pusan
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	124 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-8.47	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-25.71	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-29.67	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.9	49.8	48.1	42.0	50.6	51.2
Medium Trucks:	45.7	45.1	38.7	37.2	45.6	45.9
Heavy Trucks:	48.9	48.4	39.3	40.6	48.9	49.0
Vehicle Noise:	53.8	52.9	49.0	45.1	53.6	54.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	7	14	30
CNEL:	3	7	15	32

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Quail Hill Parkway
Road Segment: Shady Canyon Drive to Passage

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,254 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	416

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Quail Hill Parkway
Road Segment: East Knollcrest to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	701 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	56.5	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.6	63.7	60.5	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	122	263
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Quassar Drive (Spectrum)
Job Number: 15937
Road Segment: Irvine Center Drive to Spectrum Center Drive (Fortune)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	149 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.68	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.92	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	77.97	-28.88	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.3	50.3	48.5	42.4	51.1	51.7
Medium Trucks:	46.2	45.5	39.1	37.6	46.0	46.3
Heavy Trucks:	49.4	48.8	39.7	41.0	49.3	49.5
Vehicle Noise:	54.2	53.4	49.5	45.5	54.0	54.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	7	16	35
CNEL:	4	8	17	37

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: MacArthur Boulevard to McGaw Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,152 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.6	69.7	66.6	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	890
CNEL:	96	206	444	957

Saturday, March 2, 2024

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: I-405 Over Crossing to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,625 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.2	60.6	54.2	52.6	61.1	61.3
Heavy Trucks:	61.6	61.1	52.0	53.3	61.6	61.7
Vehicle Noise:	69.4	68.4	65.4	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	274	590

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: Alton Parkway to Deere Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,310 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.3	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	156	336	724
CNEL:	78	168	361	778

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,211 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	703
CNEL:	76	163	351	755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: Deere Avenue to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,203 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	701
CNEL:	75	162	350	753

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: Skypark East to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,378	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.02	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.26	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.21	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	268	576
CNEL:	62	133	287	619

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Red Hill Avenue
Road Segment: Main Street to Skypark East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,205 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.60	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.84	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.79	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.2	60.6	54.2	52.6	61.1	61.3
Heavy Trucks:	61.6	61.1	52.0	53.3	61.6	61.7
Vehicle Noise:	69.4	68.4	65.4	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	527
CNEL:	57	122	263	566

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Research Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	800 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.2	60.5	54.4	63.0	63.6
Medium Trucks:	57.1	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.1	64.2	61.1	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	133	287
CNEL:	31	66	143	308

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Research Drive
Road Segment: Scientific to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	833	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.2	56.6	50.2	48.7	57.1	57.3
Heavy Trucks:	58.1	57.5	48.4	49.7	58.1	58.2
Vehicle Noise:	65.3	64.4	61.3	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	137	295
CNEL:	32	68	147	317

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Research Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	957 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.8	57.2	50.8	49.3	57.7	57.9
Heavy Trucks:	58.7	58.1	49.0	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Research Drive
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.5	55.9	49.5	48.0	56.4	56.6
Heavy Trucks:	57.4	56.8	47.7	49.0	57.4	57.5
Vehicle Noise:	64.6	63.7	60.6	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	57	123	265
CNEL:	28	61	132	284

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Irvine Boulevard to Trabuco Road (Great Park Boulevard)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	817 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	291
CNEL:	31	67	145	312

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ridge Valley (O Street)
Road Segment: Portola Parkway to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	891 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	57.5	56.8	50.5	48.9	57.4	57.6
Heavy Trucks:	58.4	57.8	48.7	50.0	58.3	58.5
Vehicle Noise:	65.6	64.7	61.5	56.9	65.4	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	143	309
CNEL:	33	71	154	331

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Trabuco Road (Great Park Boulevard) to Marine Way

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	875 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	57.4	56.8	50.4	48.9	57.3	57.6
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.5	64.6	61.5	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	66	142	305
CNEL:	33	70	152	327

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ridge Valley (O Street)
Road Segment: Ranchland to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	74 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-13.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-30.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-34.44	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.9	54.8	53.0	47.0	55.6	56.2
Medium Trucks:	49.6	48.9	42.6	41.0	49.5	49.7
Heavy Trucks:	50.4	49.9	40.8	42.1	50.4	50.6
Vehicle Noise:	57.7	56.8	53.6	49.0	57.5	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	12	26	55
CNEL:	6	13	27	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ridgeline Drive
Road Segment: Concordia East to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,040	vehicles
Vehicle Speed:	35	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	40.0	feet
Centerline Dist. to Observer:	40.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.69	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.93	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.89	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	67.4	66.5	63.1	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	121	262
CNEL:	28	60	130	279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ridgeline Drive
Road Segment: Turtle Rock Drive to San Simeon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,040 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.69	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.93	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.89	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	67.4	66.5	63.1	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	121	262
CNEL:	28	60	130	279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Rockfield Avenue
Road Segment: Whatney to McLaren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Rockfield Avenue
Road Segment: Bake Parkway to Whatney

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	413 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-23.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.4	57.6	51.5	60.2	60.8
Medium Trucks:	54.2	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.0	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	62.3	61.3	58.2	53.5	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	185
CNEL:	20	43	92	198

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Rockfield Avenue
Road Segment: Thomas to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	413 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-23.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.4	57.6	51.5	60.2	60.8
Medium Trucks:	54.2	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.0	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	62.3	61.3	58.2	53.5	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	185
CNEL:	20	43	92	198

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Roosevelt
Road Segment: Jeffrey Road to Vision

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,031 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.9	56.3	49.9	48.4	56.8	57.0
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.0	64.1	60.8	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	130	281
CNEL:	30	65	139	300

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Roosevelt
Road Segment: Yale Avenue to Van Buren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	701 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.98	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-20.22	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-24.17	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.9	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	67.7	66.8	63.5	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	204
CNEL:	22	47	101	218

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Roosevelt
Road Segment: Vision to Bay Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	866	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.4	53.3	61.9	62.5
Medium Trucks:	56.2	55.5	49.1	47.6	56.1	56.3
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	64.2	63.3	60.0	55.5	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	250
CNEL:	27	58	124	267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Roosevelt
Road Segment: Nimitz to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,031 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.9	56.3	49.9	48.4	56.8	57.0
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.0	64.1	60.8	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	130	281
CNEL:	30	65	139	300

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Roosevelt
Road Segment: Tulip (Road C) to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	726 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.4	58.6	52.6	61.2	61.8
Medium Trucks:	55.4	54.7	48.4	46.8	55.3	55.5
Heavy Trucks:	56.7	56.1	47.1	48.4	56.7	56.8
Vehicle Noise:	63.4	62.5	59.3	54.7	63.3	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	222
CNEL:	24	51	110	238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Royal Oak
Road Segment: Alton Parkway to Eaglecreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	380 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.07	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	75.75	-22.31	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	81.57	-26.26	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.6	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	57.4	56.8	47.8	49.1	57.4	57.5
Vehicle Noise:	63.6	62.7	59.3	54.9	63.4	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	51	109
CNEL:	12	25	54	116

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Oak Canyon Drive to Burt Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,020 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	186	402	865
CNEL:	93	200	432	930

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Irvine Center Drive to Oak Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.3	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	396	853
CNEL:	92	197	425	916

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: I-405 NB Off-Ramp to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,020 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.39	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.85	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.80	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.8	71.4	72.0
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.6	65.0	56.0	57.3	65.6	65.7
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	210	451	973
CNEL:	104	225	485	1,045

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Burt Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,094 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.50	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.74	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.70	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	69.0	69.6
Medium Trucks:	62.8	62.1	55.7	54.2	62.7	62.9
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.9	70.0	66.9	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	414	892
CNEL:	96	206	445	958

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Marine to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,201 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.64	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.59	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.55	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.3	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	654	1,409
CNEL:	151	326	703	1,514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Trabuco Road to Towngate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,599 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	363	783
CNEL:	84	181	390	841

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,153 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	691
CNEL:	74	160	344	742

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: I-5 SB Off-Ramp to Marine

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,201 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.64	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.59	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.55	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.3	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	654	1,409
CNEL:	151	326	703	1,514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Hospital to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,211 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	703
CNEL:	76	163	351	755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Nightmist to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,696	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.27	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.97	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.93	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.9	64.3	57.9	56.4	64.8	65.0
Heavy Trucks:	65.3	64.8	55.7	57.0	65.3	65.5
Vehicle Noise:	73.1	72.1	69.1	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	155	334	720	1,551
CNEL:	167	359	774	1,667

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: I-405 SB Off-Ramp to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.13	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.10	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.06	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.6	61.5	70.1	70.7
Medium Trucks:	64.0	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.4	63.8	54.7	56.0	64.4	64.5
Vehicle Noise:	72.1	71.2	68.1	63.3	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	173	372	802
CNEL:	86	186	400	862

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: I-5 NB Off-Ramp to Nightmist

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,800	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,614	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.17	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.07	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.02	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.2	68.4	62.4	71.0	71.6
Medium Trucks:	64.8	64.2	57.8	56.3	64.7	64.9
Heavy Trucks:	65.2	64.7	55.6	56.9	65.2	65.4
Vehicle Noise:	73.0	72.0	69.0	64.2	72.8	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	153	329	709	1,528
CNEL:	164	354	762	1,642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Towngate to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,908 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,220 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.3	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	69.1	68.1	65.1	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	152	327	705
CNEL:	76	163	352	757

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Waterworks to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,153 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	691
CNEL:	74	160	344	742

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Irvine Boulevard to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,122 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	92	199	429
CNEL:	46	99	214	461

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,110	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.52	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.72	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.67	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.4	71.0
Medium Trucks:	64.2	63.5	57.1	55.6	64.1	64.3
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.3	71.4	68.3	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	138	298	642	1,383
CNEL:	149	320	689	1,485

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon Avenue
Road Segment: Alton Parkway to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,211 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.04	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.20	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.16	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	331	713
CNEL:	77	165	356	766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sand Canyon/Shady Canyon
Road Segment: Quail Hill Parkway to I-405 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,790	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.12	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.12	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.07	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.9	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.1	70.2	67.1	62.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	686
CNEL:	74	159	342	737

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Scientific Way
Road Segment: Irvine Center Drive to Wald

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	124 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-9.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-27.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-31.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.1	51.1	49.3	43.2	51.9	52.5
Medium Trucks:	46.3	45.7	39.3	37.8	46.2	46.5
Heavy Trucks:	48.2	47.6	38.6	39.8	48.2	48.3
Vehicle Noise:	54.3	53.5	50.0	45.6	54.2	54.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	12	26	55
CNEL:	6	13	27	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Shady Canyon Drive
Road Segment: Culver Drive/Bonita Canyon Drive to Cloverfield

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	668 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.16	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.40	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.3	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	60.7	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	68.4	67.5	64.4	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	283
CNEL:	30	66	141	305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Shady Canyon Drive
Road Segment: Bommer Canyon Road to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	578 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.79	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-22.03	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.99	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.8	65.9	62.9	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Skyhawk
Road Segment: Great Park Boulevard to Marine Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-24.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-28.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	49.7	48.6	46.8	40.8	49.4	50.0
Medium Trucks:	44.5	43.8	37.5	35.9	44.4	44.6
Heavy Trucks:	47.7	47.1	38.1	39.4	47.7	47.8
Vehicle Noise:	52.6	51.7	47.8	43.9	52.4	52.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Southwood
Road Segment: Yale Avenue to Colt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	248 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.92	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.16	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.12	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.0	56.9	55.2	49.1	57.8	58.4
Medium Trucks:	52.2	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	54.1	53.5	44.5	45.7	54.1	54.2
Vehicle Noise:	60.2	59.4	55.9	51.5	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	40	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Southwood
Road Segment: Challenger to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	215 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.55	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.78	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.74	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.4	56.3	54.6	48.5	57.1	57.7
Medium Trucks:	51.6	50.9	44.6	43.0	51.5	51.7
Heavy Trucks:	53.5	52.9	43.8	45.1	53.4	53.6
Vehicle Noise:	59.6	58.7	55.3	50.9	59.4	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	34	74
CNEL:	8	17	37	79

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Spectrum Center Drive (Fortune
Road Segment: Pacifica to Quassar Drive (Spectrum)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	866 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-18.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-22.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	57.6	55.9	49.8	58.4	59.0
Medium Trucks:	53.2	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	55.7	55.1	46.0	47.3	55.6	55.8
Vehicle Noise:	61.2	60.3	56.7	52.5	61.0	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	34	73	158
CNEL:	17	36	78	168

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Spectrum Center Drive (Fortune
Road Segment: Quassar Drive (Spectrum) to Gatewayb

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	982 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.2	56.4	50.4	59.0	59.6
Medium Trucks:	53.7	53.1	46.7	45.2	53.6	53.8
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	61.7	60.9	57.2	53.1	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	171
CNEL:	18	39	85	183

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sunnyhill
Road Segment: Shady Canyon Drive to Turtle Rock Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	462 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-19.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-23.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.7	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	48.6	47.9	41.5	40.0	48.4	48.7
Heavy Trucks:	51.8	51.2	42.2	43.4	51.8	51.9
Vehicle Noise:	56.6	55.8	51.9	48.0	56.5	56.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	78
CNEL:	8	18	39	83

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Technology Drive
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,163 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.7	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.8	65.8	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	369
CNEL:	40	85	184	396

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Technology Drive
Job Number: 15937
Road Segment: Old Laguna Canyon Road to I-5/SR-133 Undercrossing

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	479 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.8	54.1	47.8	46.2	54.7	54.9
Heavy Trucks:	55.7	55.1	46.0	47.3	55.6	55.8
Vehicle Noise:	62.9	62.0	58.8	54.2	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	204
CNEL:	22	47	102	219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Technology Drive
Road Segment: I-5/SR-133 to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	437 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.6	57.8	51.8	60.4	61.0
Medium Trucks:	54.4	53.8	47.4	45.9	54.3	54.5
Heavy Trucks:	55.3	54.7	45.6	46.9	55.3	55.4
Vehicle Noise:	62.5	61.6	58.5	53.8	62.3	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	192
CNEL:	21	44	96	206

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Technology Drive
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-27.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-31.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.7	54.7	52.9	46.8	55.5	56.1
Medium Trucks:	49.5	48.8	42.5	40.9	49.4	49.6
Heavy Trucks:	50.3	49.7	40.7	42.0	50.3	50.4
Vehicle Noise:	57.6	56.7	53.5	48.8	57.4	57.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	45	97

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Toledo Way
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	627 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	65.2	64.3	61.3	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	291
CNEL:	31	67	145	313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Toledo Way
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	503 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.5	59.7	53.7	62.3	62.9
Medium Trucks:	56.1	55.5	49.1	47.6	56.0	56.2
Heavy Trucks:	56.5	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	64.3	63.3	60.3	55.5	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	251
CNEL:	27	58	125	270

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Toledo Way
Road Segment: Alton Parkway to Parker

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	437 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-6.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-23.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-27.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.5	54.9	48.5	46.9	55.4	55.6
Heavy Trucks:	55.9	55.4	46.3	47.6	55.9	56.0
Vehicle Noise:	63.7	62.7	59.7	54.9	63.5	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	229
CNEL:	25	53	114	246

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: Keystone to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,081 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.4	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.4	65.5	62.4	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	351
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: Jeffrey Road to Keystone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,081 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.4	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.4	65.5	62.4	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	351
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: Culver Drive to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: Monroe to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: I-5 NB Off-Ramp to Monroe

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: Yale Avenue to Remington

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	866 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.3
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	32	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Trabuco Road
Road Segment: Remington to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,500	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	866	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.3
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	32	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Ridge Drive
Road Segment: Federation Way to Bonita Canyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-42.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-60.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-63.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	23.4	22.4	20.6	14.5	23.2	23.8
Medium Trucks:	17.2	16.5	10.2	8.6	17.1	17.3
Heavy Trucks:	18.0	17.4	8.4	9.7	18.0	18.1
Vehicle Noise:	25.3	24.4	21.2	16.5	25.1	25.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Rock Drive
Road Segment: Ridgeline to Willowleaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	578 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.34	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.57	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.53	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.5	57.9	51.5	49.9	58.4	58.6
Heavy Trucks:	59.4	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	66.6	65.7	62.5	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	100	216
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Rock Drive
Road Segment: Silkwood to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	594 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.21	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.45	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.41	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.7	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	24	51	110	236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Rock Drive
Road Segment: Canyon Park to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	553 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.53	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.76	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.72	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.2	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	66.4	65.5	62.3	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	210
CNEL:	22	48	104	225

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Rock Drive
Road Segment: Sunnyhill to Southernwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	289 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.35	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.58	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-28.54	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.5	54.8	48.5	46.9	55.4	55.6
Heavy Trucks:	56.3	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	63.6	62.7	59.5	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	29	63	136
CNEL:	15	31	68	146

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Rock Drive
Road Segment: Campus Drive to Hillgate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	553	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	55.4	54.8	48.4	46.9	55.3	55.6
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.5	62.6	59.5	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	225
CNEL:	24	52	112	241

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Turtle Rock Drive
Road Segment: Paseo Segovia to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	322 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.88	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.11	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-28.07	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.1	60.3	54.3	62.9	63.5
Medium Trucks:	56.9	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	57.8	57.2	48.1	49.4	57.7	57.9
Vehicle Noise:	65.0	64.1	60.9	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	180
CNEL:	19	42	90	193

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Golden Glow to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,921 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.8	63.1	56.7	55.2	63.7	63.9
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.9	71.0	67.9	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	377	811
CNEL:	87	188	405	872

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Ridgeline to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,869 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.47	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.77	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-17.73	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	208	447	964
CNEL:	104	223	481	1,036

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Culver Drive to Golden Glow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,846 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.1	63.5	54.4	55.7	64.1	64.2
Vehicle Noise:	71.8	70.9	67.8	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	370	798
CNEL:	86	185	398	857

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Yale Avenue to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,822 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.7	64.0	64.1
Vehicle Noise:	71.7	70.8	67.8	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	793
CNEL:	85	184	395	852

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,364 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.5	61.4	70.0	70.6
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.0	71.1	68.0	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	238	513	1,106
CNEL:	119	256	552	1,189

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Mesa to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,805 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.17	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.12	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.4	71.1	71.7
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	73.0	72.1	69.1	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	430	926
CNEL:	99	214	462	995

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,805 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.17	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.12	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.4	71.1	71.7
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	73.0	72.1	69.1	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	430	926
CNEL:	99	214	462	995

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: California Avenue to Mesa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,805 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.17	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.12	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.4	71.1	71.7
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	73.0	72.1	69.1	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	430	926
CNEL:	99	214	462	995

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,294 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	334	720
CNEL:	77	167	359	774

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,238 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.48	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-18.72	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-22.68	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	107	229	494
CNEL:	53	114	247	531

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,145 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	320	689
CNEL:	74	159	344	740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: San Joaquin to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,939 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	60.8	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.5	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	644
CNEL:	69	149	321	692

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: University Drive
Road Segment: Harvard Avenue to San Joaquin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,939 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	60.8	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.5	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	644
CNEL:	69	149	321	692

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Valley Oak Drive
Road Segment: Hawkcreek to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	355 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-6.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-24.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-28.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.6	53.9	47.6	46.0	54.5	54.7
Heavy Trucks:	55.0	54.4	45.4	46.7	55.0	55.1
Vehicle Noise:	62.7	61.8	58.8	54.0	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	92	199
CNEL:	21	46	99	214

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Valley Oak Drive
Road Segment: Irvine Center Drive to Oak Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	371 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-6.71	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-23.95	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-27.91	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.1	60.4	54.3	62.9	63.5
Medium Trucks:	56.8	56.1	49.7	48.2	56.7	56.9
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	64.9	64.0	60.9	56.1	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	222
CNEL:	24	51	110	238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Valley Oak Drive
Road Segment: Barranca Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	347 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-7.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-24.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-28.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	54.5	53.8	47.5	45.9	54.4	54.6
Heavy Trucks:	54.9	54.3	45.3	46.6	54.9	55.0
Vehicle Noise:	62.6	61.7	58.7	53.9	62.4	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	42	91	196
CNEL:	21	45	98	211

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Valley Oak Drive
Road Segment: Alton Parkway to Hawkcreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	421 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-6.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-23.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-27.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	55.4	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	55.8	55.2	46.1	47.4	55.8	55.9
Vehicle Noise:	63.5	62.6	59.5	54.7	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	223
CNEL:	24	52	111	240

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Marriott to Morse Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,807 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	57.9	66.6	67.2
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.4	60.8	51.8	53.1	61.4	61.5
Vehicle Noise:	68.7	67.8	64.6	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	107	230	495
CNEL:	53	114	246	531

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Michelson Drive to Quartz

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,757 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.50	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.1
Medium Trucks:	60.5	59.8	53.4	51.9	60.4	60.6
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.5	67.6	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	225	485
CNEL:	52	112	242	521

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,964 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.98	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	61.0	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.0	68.1	65.0	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	113	243	523
CNEL:	56	121	260	561

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,162 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.40	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.84	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	84.25	-19.80	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	60.1	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.2	67.3	64.1	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	273	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Main Street to Anchor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,100	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,906	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	68.9	68.0	64.8	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	238	512
CNEL:	55	118	255	550

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Anchor to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,906 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	68.9	68.0	64.8	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	238	512
CNEL:	55	118	255	550

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Morse to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,906 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	68.9	68.0	64.8	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	238	512
CNEL:	55	118	255	550

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Martin to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,403	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	418
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Campus Drive to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	418
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Von Karman Avenue
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	418
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Jeffrey Road to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,782 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	227	490
CNEL:	53	113	244	526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Myford Road to Jamboree Road SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,683 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.2	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	472
CNEL:	51	109	235	506

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: The Mall Street to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,543	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.7	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.0	67.1	63.9	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	207	445
CNEL:	48	103	222	478

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Harvard Avenue to The Mall Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,543 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.7	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.0	67.1	63.9	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	207	445
CNEL:	48	103	222	478

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Franciscan Street to Ravenwood Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,469 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	67.8	66.9	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	431
CNEL:	46	100	214	462

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Ravenwood Street to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,469 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	67.8	66.9	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	431
CNEL:	46	100	214	462

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Culver Drive to Franciscan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,469 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	67.8	66.9	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	431
CNEL:	46	100	214	462

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Peters Canyon Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,675 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.4	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	66.7	65.8	62.6	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	490
CNEL:	53	113	244	526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Project Name: Irvine GP
Road Name: Walnut Avenue
Job Number: 15937
Road Segment: Jamboree Road NB Off-Ramp to Peters Canyon Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,300	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,675	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.4	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	66.7	65.8	62.6	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	490
CNEL:	53	113	244	526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Yale Avenue to Kazan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	982 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	329
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Walnut Avenue
Road Segment: Wisteria to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	982 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	329
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Warner Avenue
Road Segment: Jamboree Road SB Off-ramp to Construction North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,096 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.6	54.2	52.7	61.1	61.3
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.3	68.4	65.3	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	253	546
CNEL:	59	126	272	586

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Warner Avenue
Road Segment: Construction North to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,386 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.0
Medium Trucks:	59.4	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	414
CNEL:	44	96	206	445

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Warner Avenue
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	941 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.8	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Warner Avenue
Road Segment: Santa Ynez to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	751 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	56.8	56.1	49.7	48.2	56.7	56.9
Heavy Trucks:	57.6	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	64.9	63.9	60.8	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	59	128	275
CNEL:	30	64	137	295

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Warner Avenue
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	718 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	56.6	55.9	49.5	48.0	56.5	56.7
Heavy Trucks:	57.4	56.8	47.8	49.0	57.4	57.5
Vehicle Noise:	64.7	63.8	60.6	55.9	64.5	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	124	267
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Alton Parkway to Blue Lake North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	660 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	60.0	58.2	52.1	60.8	61.4
Medium Trucks:	55.0	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.0	62.1	58.9	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	208
CNEL:	22	48	104	223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Eagle Run to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	660 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	60.0	58.2	52.1	60.8	61.4
Medium Trucks:	55.0	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.0	62.1	58.9	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	208
CNEL:	22	48	104	223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Thunder Run to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	578 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	54.4	53.7	47.4	45.8	54.3	54.5
Heavy Trucks:	55.7	55.1	46.1	47.4	55.7	55.8
Vehicle Noise:	62.4	61.6	58.3	53.7	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	88	191
CNEL:	20	44	95	204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Main Street to Timber Run

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	578 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	54.4	53.7	47.4	45.8	54.3	54.5
Heavy Trucks:	55.7	55.1	46.1	47.4	55.7	55.8
Vehicle Noise:	62.4	61.6	58.3	53.7	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	88	191
CNEL:	20	44	95	204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Yale Avenue to Shorebird

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	53.5	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.8	54.3	45.2	46.5	54.8	54.9
Vehicle Noise:	61.6	60.7	57.4	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	83	178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Warner Avenue to Stonecreek South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	53.5	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.8	54.3	45.2	46.5	54.8	54.9
Vehicle Noise:	61.6	60.7	57.4	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	83	178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	454 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-22.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.4	58.3	56.6	50.5	59.1	59.7
Medium Trucks:	53.4	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	54.7	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	61.4	60.5	57.2	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	75	162
CNEL:	17	37	81	174

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Stonecreek North to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	53.5	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.8	54.3	45.2	46.5	54.8	54.9
Vehicle Noise:	61.6	60.7	57.4	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	83	178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: West Yale Loop
Road Segment: Birdsong to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	53.5	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.8	54.3	45.2	46.5	54.8	54.9
Vehicle Noise:	61.6	60.7	57.4	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	83	178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Westwood
Road Segment: Yorktown to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	462 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.21	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-21.45	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-25.41	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.7	57.9	51.8	60.5	61.1
Medium Trucks:	55.0	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	62.9	62.1	58.6	54.2	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	27	57	124
CNEL:	13	28	61	132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Westwood
Road Segment: Bryan Avenue to Leaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	297 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.13	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.37	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.33	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.8	57.7	56.0	49.9	58.5	59.1
Medium Trucks:	53.0	52.4	46.0	44.5	52.9	53.1
Heavy Trucks:	54.9	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	61.0	60.1	56.7	52.3	60.9	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	92
CNEL:	10	21	46	98

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Deerfield Avenue to Winvale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	842 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.70	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.94	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.89	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	129	278
CNEL:	30	64	138	298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Hicks Canyon Drive to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	619 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.04	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.27	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.23	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	113	243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Walnut Avenue to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,600	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,122	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	40.0	feet
Centerline Dist. to Observer:	40.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.45	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.69	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-22.65	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.4	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	414
CNEL:	44	96	206	445

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,122 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.4	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	66.6	65.7	62.5	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	167	360
CNEL:	39	83	179	386

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,031 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	58.2	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.0	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	66.2	65.3	62.2	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	340
CNEL:	37	79	169	365

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: West Yale Loop to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	734 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.7	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	64.8	63.8	60.7	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	126	271
CNEL:	29	63	135	291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Winvale Avenue to Karen Ann Lane

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	842 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.3	56.6	50.2	48.7	57.2	57.4
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	65.3	64.4	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Karen Ann Lane to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	842 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.3	56.6	50.2	48.7	57.2	57.4
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	65.3	64.4	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Trabuco Road to Southwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	743 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.7	56.1	49.7	48.1	56.6	56.8
Heavy Trucks:	57.6	57.0	47.9	49.2	57.6	57.7
Vehicle Noise:	64.8	63.9	60.7	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	273
CNEL:	29	63	136	293

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Southwood to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	743 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.7	56.1	49.7	48.1	56.6	56.8
Heavy Trucks:	57.6	57.0	47.9	49.2	57.6	57.7
Vehicle Noise:	64.8	63.9	60.7	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	273
CNEL:	29	63	136	293

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Northwood to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	701 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	56.5	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.6	63.7	60.5	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	122	263
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	701 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	56.5	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.6	63.7	60.5	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	122	263
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: Irvine Boulevard to Park Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	594 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	55.8	55.1	48.7	47.2	55.6	55.9
Heavy Trucks:	56.6	56.0	47.0	48.2	56.6	56.7
Vehicle Noise:	63.8	62.9	59.8	55.1	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	109	236
CNEL:	25	54	117	253

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Avenue
Road Segment: University Drive to Royce

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	91 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-12.37	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-29.61	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-33.57	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.7	53.0	46.9	55.5	56.1
Medium Trucks:	49.6	48.9	42.5	41.0	49.4	49.7
Heavy Trucks:	50.4	49.8	40.8	42.0	50.4	50.5
Vehicle Noise:	57.6	56.7	53.6	48.9	57.4	57.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	34	73
CNEL:	8	17	36	78

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Yale Court
Road Segment: Arborwood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.45	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-19.69	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-23.65	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.9	55.9	54.1	48.0	56.7	57.3
Medium Trucks:	51.8	51.1	44.7	43.2	51.6	51.9
Heavy Trucks:	55.0	54.4	45.3	46.6	54.9	55.1
Vehicle Noise:	59.8	59.0	55.1	51.1	59.6	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	16	35	76
CNEL:	8	17	38	81

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Ada
Road Segment: Barranca Parway to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.27	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-59.51	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-63.47	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	24.9	23.8	22.0	16.0	24.6	25.2
Medium Trucks:	18.9	18.2	11.8	10.3	18.7	19.0
Heavy Trucks:	20.2	19.6	10.5	11.8	20.1	20.3
Vehicle Noise:	26.9	26.0	22.7	18.2	26.7	27.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	0
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Ada
Road Segment: Alton Parkway to Barranca PArkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,232 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,587 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.8	65.9	62.7	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	374
CNEL:	40	86	186	400

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Enterprise to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,884	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,693	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.4	71.0
Medium Trucks:	64.2	63.5	57.1	55.6	64.1	64.3
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.3	71.4	68.3	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	539	1,161
CNEL:	125	269	579	1,248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: I-5 NB Off-Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,594 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,999 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.58	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.66	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.61	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.2	68.5	62.4	71.0	71.6
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	73.0	72.1	69.0	64.2	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	265	570	1,228
CNEL:	132	284	613	1,320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,534 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,519 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.3	70.3	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	158	341	735
CNEL:	79	170	367	790

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Gateway Boulevard to Enterprise

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,234 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,907 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.6	68.3	68.9
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	392	844
CNEL:	91	195	421	907

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Jeffrey Road to Royal Oak

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,938 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	617
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Daimler Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,780 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,962 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.5	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	70.2	69.3	66.2	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,362 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,010 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.6	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	70.3	69.4	66.3	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	294	633
CNEL:	68	146	315	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,892 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,971 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.2	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	135	290	624
CNEL:	67	145	311	671

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,233 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.69	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.55	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.51	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.6	60.5	69.1	69.7
Medium Trucks:	63.0	62.3	55.9	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.1	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	919
CNEL:	99	213	458	987

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Creek Road to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,067 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,903 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	610
CNEL:	66	141	304	655

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Red Hill Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,216 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,750 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.7	68.8	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	268	577
CNEL:	62	134	288	620

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,890	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,888	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.7
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	607
CNEL:	65	140	303	652

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Telemetry to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,313 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,676 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	560
CNEL:	60	130	279	602

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Irvine Boulevard to Commercentre

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,324 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,244 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.4
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	421	908
CNEL:	98	210	453	975

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Jenner to Telemetry

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,661 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	557
CNEL:	60	129	278	598

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Irvine Center Drive to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,165 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,489 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.69	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.3	52.2	53.5	61.8	61.9
Vehicle Noise:	69.6	68.6	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	353	761
CNEL:	82	176	379	817

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Sand Canyon Avenue to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,781 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,034 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.41	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.83	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.78	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.6	68.8	62.8	71.4	72.0
Medium Trucks:	65.2	64.6	58.2	56.7	65.1	65.4
Heavy Trucks:	65.7	65.1	56.0	57.3	65.6	65.8
Vehicle Noise:	73.4	72.4	69.4	64.6	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	210	453	976
CNEL:	105	226	487	1,048

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Laguna Canyon Road to Jenner

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,926 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,644 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.1
Medium Trucks:	61.3	60.6	54.2	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	553
CNEL:	59	128	276	594

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Technology Drive East to Barranca Pkwy/Muirlands Blvd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,162 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,818 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	384	827
CNEL:	89	191	412	888

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Royal Oak to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,001 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	555
CNEL:	60	128	277	596

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,390 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,517 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.3	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.4
Vehicle Noise:	69.1	68.1	65.1	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	113	243	524
CNEL:	56	121	262	563

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Barranca Pkwy/Muirlands Blvd to Jeronimo Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,762	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,785	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	820
CNEL:	88	190	409	881

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Ada to Technology Drive East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,909	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,715	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	374	806
CNEL:	87	187	402	866

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,845 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,472 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	111	239	514
CNEL:	55	119	256	552

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Jeronimo Road to Hughes

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,838 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,544 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.65	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.59	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	772
CNEL:	83	179	385	829

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Hughes to Morgan
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,010	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,393	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.7	61.1	52.0	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.4	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	741
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Morgan to Toledo Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,745 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,041 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.7	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	309	667
CNEL:	72	154	332	716

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: San Marino to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,868	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,052	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	60.6	59.9	53.5	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	669
CNEL:	72	155	334	719

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,978 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,896 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.83	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	60.7	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	68.4	67.5	64.4	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	137	295	635
CNEL:	68	147	316	682

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Hospital to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,303 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,840 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.24	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.00	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.95	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.2	69.8
Medium Trucks:	63.1	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.2	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	324	699
CNEL:	75	162	349	751

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,026 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,817 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.19	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.05	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.01	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.1	63.4	63.5
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	322	693
CNEL:	74	160	346	745

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Murphy Avenue to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,029 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,817 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.01	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.1	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	68.2	67.3	64.2	59.4	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	617
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Foster to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,872 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,052 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	60.6	59.9	53.5	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	669
CNEL:	72	155	334	719

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Fairbanks to Foster

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,257 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,919 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.42	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.82	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	640
CNEL:	69	148	319	687

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Toledo Way to Bertea

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,840 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	613
CNEL:	66	142	306	659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Pacifica to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,738	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,546	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.52	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.76	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.71	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Bertea to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,315 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,758 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Meridian to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,783	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,467	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.94	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.5	59.0	59.2
Heavy Trucks:	59.5	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.3	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	248	535
CNEL:	57	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Paseo Westpark to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,914 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,643 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	268	577
CNEL:	62	134	288	620

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Alton Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,294 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,344 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.2	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	66.9	66.0	62.9	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	505
CNEL:	54	117	252	542

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Astor
Road Segment: Lynx to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,138 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,579 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.79	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-15.44	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-19.40	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.3	55.3	63.9	64.5
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	61.2	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	66.7	65.8	62.2	58.0	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	23	50	109	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Astor
Road Segment: Cadence to Lynx
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,633	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,290	vehicles
Vehicle Speed:	30	mph
Near/Far Lane Distance:	12	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	37.5	feet
Centerline Dist. to Observer:	37.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.91	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-16.32	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-20.28	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.2	60.5	54.4	63.0	63.6
Medium Trucks:	57.8	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	65.8	64.9	61.3	57.1	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	192
CNEL:	20	44	95	204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: I-5 NB Off-Ramp to Rockfield Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	91,457	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	7,545	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.37	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-10.87	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-14.83	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.5	73.4	71.6	65.6	74.2	74.8
Medium Trucks:	68.0	67.4	61.0	59.4	67.9	68.1
Heavy Trucks:	68.4	67.9	58.8	60.1	68.4	68.6
Vehicle Noise:	76.2	75.2	72.2	67.4	76.0	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	250	538	1,159	2,496
CNEL:	268	578	1,245	2,682

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Muirlands Boulevard to Jeronimo Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,885 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,023 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.1	62.0	70.6	71.3
Medium Trucks:	64.5	63.8	57.4	55.9	64.4	64.6
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	72.6	71.7	68.6	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	262	564	1,215
CNEL:	131	281	606	1,305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Rockfield Boulevard to Muirlands Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,745	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,506	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.00	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.24	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.19	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	66.7	66.0	59.6	58.1	66.5	66.8
Heavy Trucks:	67.1	66.5	57.5	58.7	67.1	67.2
Vehicle Noise:	74.8	73.9	70.8	66.0	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	436	939	2,023
CNEL:	217	468	1,009	2,174

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Jeronimo Road to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,574 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,090 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	63.6	62.9	56.5	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.7	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	228	492	1,059
CNEL:	114	245	528	1,138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Toledo Way to Cromwell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,682 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,769 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.6	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.7
Vehicle Noise:	71.4	70.4	67.4	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	466	1,003
CNEL:	108	232	500	1,078

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Cromwell to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,725 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,772 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.36	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.6	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.4	70.4	67.4	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	466	1,004
CNEL:	108	232	501	1,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Research Drive to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,918 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,221 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.3	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	69.1	68.1	65.1	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	152	327	705
CNEL:	76	163	352	758

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Irvine Center Drive to Research Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,085 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	750 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-20.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-24.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.6	59.8	53.8	62.4	63.0
Medium Trucks:	56.2	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	56.6	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	64.3	63.4	60.4	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bake Parkway
Road Segment: Lake Forest Drive to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,286 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	519 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-22.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-26.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.6	53.9	47.6	46.0	54.5	54.7
Heavy Trucks:	55.0	54.4	45.4	46.7	55.0	55.1
Vehicle Noise:	62.7	61.8	58.8	54.0	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	124	267
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Banting
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,452 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	367 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-22.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-26.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.8	55.8	54.0	48.0	56.6	57.2
Medium Trucks:	51.1	50.4	44.0	42.5	50.9	51.2
Heavy Trucks:	52.9	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	59.1	58.2	54.8	50.4	58.9	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	53	114
CNEL:	12	26	56	121

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Pacifica to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,831 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,049 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	752
CNEL:	81	174	375	809

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,806	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,129	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.6	70.6	67.7	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	771
CNEL:	83	179	385	830

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: I-5 HOV Ramp to Technology Drive West

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,598 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,699 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.4	61.9	52.8	54.1	62.4	62.5
Vehicle Noise:	70.6	69.7	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	664
CNEL:	71	154	331	714

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,700	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,955	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.7	69.4	70.0
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.0	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	71.2	70.3	67.3	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	729
CNEL:	78	169	364	784

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Irvine Center Drive to I-5 HOV Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,207 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,667 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.3	61.7	55.3	53.7	62.2	62.4
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	141	304	655
CNEL:	70	152	327	705

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,201 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.6
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	848

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,229 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,081 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.1	61.0	69.6	70.2
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.5	70.5	67.6	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	353	760
CNEL:	82	176	379	817

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,103 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.4
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	355	765
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Ada to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,456 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,348 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.4	67.6	61.5	70.2	70.8
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	63.8	63.3	54.2	55.5	63.8	63.9
Vehicle Noise:	72.0	71.1	68.1	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	823
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,501 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,939 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	55.9	54.4	62.9	63.1
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	71.2	70.2	67.3	62.4	71.0	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	156	336	725
CNEL:	78	168	362	780

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Red Hill Avenue to Armstrong Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,978	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,711	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.87	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.37	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.32	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	65.9	65.3	58.9	57.4	65.8	66.0
Heavy Trucks:	66.0	65.4	56.3	57.6	65.9	66.1
Vehicle Noise:	74.1	73.2	70.2	65.4	73.9	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	183	393	847	1,825
CNEL:	196	423	911	1,963

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Discovery/Herchel to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,685 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,789 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.6	62.0	55.6	54.1	62.5	62.7
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	687
CNEL:	74	159	343	739

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Lyon to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,895 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,806 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	691
CNEL:	74	160	345	744

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Creek Road to Lyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,564 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,779 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	318	684
CNEL:	74	159	342	736

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,982 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,216 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.25	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.99	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.94	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	63.9	63.3	56.9	55.4	63.8	64.0
Heavy Trucks:	64.0	63.4	54.3	55.6	63.9	64.1
Vehicle Noise:	72.1	71.2	68.2	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	231	499	1,074
CNEL:	116	249	536	1,156

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Barranca Parkway
Job Number: 15937
Road Segment: Sand Canyon Avenue to Laguna Canyon Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,260 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,589 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	137	295	635
CNEL:	68	147	317	683

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Armstrong Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,440 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,006 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.96	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.28	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.24	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	221	477	1,027
CNEL:	110	238	513	1,105

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,496 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,526 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.3	53.6	62.0	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	618
CNEL:	66	143	308	665

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Jamboree Road to Construction Circle

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,403 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.4	69.5	66.6	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	872
CNEL:	94	202	436	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Santa Rosa to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,283 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,333 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.2
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	855
CNEL:	92	198	427	920

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: FedEx to Discovery/Herchel

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,244 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,258 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.1
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.1	60.5	51.5	52.8	61.1	61.2
Vehicle Noise:	69.3	68.4	65.4	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	543
CNEL:	58	126	271	584

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Jeffrey Road to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,857 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,308 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.3	60.6	54.2	52.7	61.2	61.4
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.5	68.5	65.6	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	558
CNEL:	60	129	278	600

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Laguna Canyon Road to FedEx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,848	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,225	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	69.2	68.2	65.3	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	248	534
CNEL:	57	124	266	574

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Pullman Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,153 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,983 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.92	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-15.31	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-19.27	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.8	62.7	71.3	71.9
Medium Trucks:	65.0	64.3	58.0	56.4	64.9	65.1
Heavy Trucks:	65.0	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	73.2	72.2	69.3	64.4	73.0	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	158	340	732	1,578
CNEL:	170	366	788	1,697

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Construction Circle to Fire Station

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,175 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,077 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	367	791
CNEL:	85	183	395	851

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Fire Station to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,175 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,077 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	367	791
CNEL:	85	183	395	851

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Paseo Westpark to Santa Rosa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,294 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,087 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.8	68.9	66.0	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	794
CNEL:	85	184	396	854

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Barranca Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,911 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.5	68.5	65.6	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	749
CNEL:	81	173	374	805

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bay Tree
Road Segment: Trabuco Road to Roosevelt
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,723 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	225 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.7	53.6	51.9	45.8	54.4	55.1
Medium Trucks:	48.9	48.3	41.9	40.3	48.8	49.0
Heavy Trucks:	50.8	50.2	41.2	42.4	50.8	50.9
Vehicle Noise:	56.9	56.1	52.6	48.2	56.8	57.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	41	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Beacon
Road Segment: Ridge Valley to Benchmark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,119 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	257 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-6.09	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-23.32	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-27.28	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.3	55.2	53.5	47.4	56.0	56.6
Medium Trucks:	50.8	50.1	43.8	42.2	50.7	50.9
Heavy Trucks:	53.3	52.7	43.7	44.9	53.3	53.4
Vehicle Noise:	58.8	57.9	54.3	50.1	58.6	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	14	30	66
CNEL:	7	15	32	70

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Benchmark (LN Street)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,829 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	151 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.40	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.64	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.60	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	52.9	51.2	45.1	53.7	54.3
Medium Trucks:	48.5	47.8	41.5	39.9	48.4	48.6
Heavy Trucks:	51.0	50.4	41.3	42.6	50.9	51.1
Vehicle Noise:	56.5	55.6	52.0	47.8	56.3	56.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	21	46
CNEL:	5	11	23	49

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bison Avenue
Road Segment: SR-73 NB Off-Ramp to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,221 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,163 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.7	67.4	68.0
Medium Trucks:	61.4	60.7	54.3	52.8	61.3	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	558
CNEL:	60	129	278	598

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bonita Canyon Drive
Road Segment: MacArthur Boulevard to SR-73

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,318 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,501 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.57	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.67	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-19.62	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	335	721
CNEL:	77	167	359	774

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bonita Canyon Drive
Road Segment: Turtle Ridge to Shady Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,645	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,703	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.10	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.33	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.29	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.6	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.3	67.4	64.3	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	558
CNEL:	60	129	278	599

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bonita Canyon Drive
Road Segment: Newport Coast Drive to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,987 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,566 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.46	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.70	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.65	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	65.9	66.6
Medium Trucks:	59.8	59.1	52.7	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	63.9	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	528
CNEL:	57	122	263	567

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bonita Canyon Drive
Road Segment: SR-73 NB Off-Ramp to Newport Coast Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,778	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,467	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.75	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.98	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.94	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.6	66.7	63.7	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	505
CNEL:	54	117	252	542

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bosque
Road Segment: Cadence to Great Park Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,850 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	978 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.29	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-17.53	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-21.48	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.0	59.3	53.2	61.8	62.4
Medium Trucks:	56.6	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	64.6	63.7	60.1	55.9	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	34	74	160
CNEL:	17	37	79	170

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bosque
Road Segment: Irvine Boulevard to Benchmark (LN Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,686 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	634 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-2.17	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.41	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.36	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.2	57.4	51.3	60.0	60.6
Medium Trucks:	54.7	54.1	47.7	46.1	54.6	54.8
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	62.7	61.9	58.2	54.0	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	55	120
CNEL:	13	27	59	127

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bosque
Road Segment: Benchmark to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,750 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	639 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-2.13	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.37	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.33	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.4	51.4	60.0	60.6
Medium Trucks:	54.8	54.1	47.7	46.2	54.6	54.9
Heavy Trucks:	57.2	56.6	47.6	48.9	57.2	57.3
Vehicle Noise:	62.8	61.9	58.3	54.1	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	120
CNEL:	13	28	59	128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bosque
Road Segment: Great Park Boulevard to Beacon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,880 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	155 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.28	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.52	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.48	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.1	53.0	51.3	45.2	53.8	54.4
Medium Trucks:	48.6	47.9	41.6	40.0	48.5	48.7
Heavy Trucks:	51.1	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	56.6	55.7	52.1	47.9	56.4	56.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	22	47
CNEL:	5	11	23	50

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bosque
Road Segment: Beacon to S 5th Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,524 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	126 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-9.20	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-26.43	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-30.39	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.2	52.1	50.4	44.3	52.9	53.5
Medium Trucks:	47.7	47.0	40.7	39.1	47.6	47.8
Heavy Trucks:	50.2	49.6	40.5	41.8	50.1	50.3
Vehicle Noise:	55.7	54.8	51.2	47.0	55.5	55.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	41
CNEL:	4	9	20	43

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Jamboree Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,684 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,789 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	491
CNEL:	53	114	245	527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Market Place to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,735	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,793	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	492
CNEL:	53	114	245	528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Rubicon to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,735 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,793 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	492
CNEL:	53	114	245	528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: El Camino Real to Rubicon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,735 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,793 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	492
CNEL:	53	114	245	528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Eastwood to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,981 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Westwood to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,001 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Culver Drive to Westwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,292 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,014 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.3	61.5	55.4	64.1	64.7
Medium Trucks:	58.1	57.4	51.0	49.5	58.0	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.2	65.3	62.1	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	156	337
CNEL:	36	78	168	361

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Bryan Avenue
Road Segment: Yale Avenue to Eastwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	918 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Cadence
Road Segment: Pusan to Chinon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,989 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	412 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.29	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.53	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.49	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	55.8	55.2	48.8	47.3	55.7	55.9
Heavy Trucks:	57.1	56.6	47.5	48.8	57.1	57.2
Vehicle Noise:	63.9	63.0	59.7	55.1	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	31	66	142
CNEL:	15	33	71	152

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Cadence
Road Segment: Bosque to Pusan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,049 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	417 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.44	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	63.9	63.0	59.7	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	31	66	143
CNEL:	15	33	71	153

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Cadence
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,822 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	398 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.44	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.68	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.64	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	139
CNEL:	15	32	69	149

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Cadence
Road Segment: Chinon to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,575 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	130 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-10.30	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-27.54	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-31.50	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.8	55.8	54.0	48.0	56.6	57.2
Medium Trucks:	50.8	50.2	43.8	42.2	50.7	50.9
Heavy Trucks:	52.1	51.5	42.5	43.8	52.1	52.2
Vehicle Noise:	58.9	58.0	54.7	50.1	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	14	31	66
CNEL:	7	15	33	70

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Cadence
Road Segment: Merit to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,397 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	115 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-10.82	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-28.06	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-32.02	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.3	55.3	53.5	47.4	56.1	56.7
Medium Trucks:	50.3	49.6	43.3	41.7	50.2	50.4
Heavy Trucks:	51.6	51.0	42.0	43.2	51.6	51.7
Vehicle Noise:	58.3	57.4	54.2	49.6	58.1	58.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	28	61
CNEL:	7	14	30	65

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: California Avenue
Road Segment: University Drive to Academy Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,529 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,281 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.9	57.2	50.8	49.3	57.8	58.0
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	65.9	65.0	61.7	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: California Avenue
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,756 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	805 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.9	55.2	48.8	47.3	55.7	56.0
Heavy Trucks:	57.2	56.6	47.5	48.8	57.2	57.3
Vehicle Noise:	63.9	63.0	59.7	55.2	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	238
CNEL:	25	55	118	255

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: California Avenue
Road Segment: Theory to Bison Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,438 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	779 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.7	57.0	57.1
Vehicle Noise:	63.7	62.9	59.6	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Carlson Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,465 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.14	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-16.09	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-20.05	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.6	64.0	57.6	56.0	64.5	64.7
Heavy Trucks:	65.0	64.4	55.4	56.7	65.0	65.1
Vehicle Noise:	72.8	71.8	68.8	64.0	72.6	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	740
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: University Drive to Bridge Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,499 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,599 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.3	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.4	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	348	751
CNEL:	81	174	374	807

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Jamboree Road to Carlson Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,851 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,380 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.9	62.2	55.8	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.0	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	329	708
CNEL:	76	164	353	761

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Stanford Court to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,338	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,255	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.6	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	70.8	69.9	66.8	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	317	683
CNEL:	73	158	341	734

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: California Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,438 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,181 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.98	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	668
CNEL:	72	155	333	718

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Berkeley Avenue to Cornell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,044 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,736 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	124	266	574
CNEL:	62	133	286	616

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Martin to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,957 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,316 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.4	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	477
CNEL:	51	110	238	513

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Campus Drive
Job Number: 15937
Road Segment: Culver Drive to Paseo Montoya (Turtle Rock Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,713 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,296 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	60.7	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	68.4	67.5	64.4	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	472
CNEL:	51	109	235	507

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Von Karman Avenue to Teller Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,785 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,137 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.3	57.2	65.8	66.5
Medium Trucks:	59.7	59.0	52.6	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	201	433
CNEL:	46	100	216	465

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: MacArthur Boulevard to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,788 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,137 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.3	57.2	65.8	66.5
Medium Trucks:	59.7	59.0	52.6	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	201	433
CNEL:	46	100	216	465

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Campus Drive
Road Segment: Teller Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,365 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	938 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.2	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	67.0	66.0	63.0	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	380
CNEL:	41	88	190	409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Carlson Avenue
Road Segment: Michelson Drive to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,044 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,076 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.0	57.0	65.6	66.2
Medium Trucks:	59.4	58.8	52.4	50.9	59.3	59.5
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.6	66.6	63.6	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	417
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Chinon
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,025 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	332 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.19	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-21.42	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-25.38	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.2	54.1	52.4	46.3	54.9	55.5
Medium Trucks:	50.0	49.4	43.0	41.4	49.9	50.1
Heavy Trucks:	53.2	52.6	43.6	44.9	53.2	53.3
Vehicle Noise:	58.1	57.2	53.3	49.4	57.9	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	27	59
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Creek Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,622 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	381 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-20.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-24.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.9	51.8	50.1	44.0	52.6	53.2
Medium Trucks:	47.7	47.1	40.7	39.2	47.6	47.8
Heavy Trucks:	50.9	50.4	41.3	42.6	50.9	51.1
Vehicle Noise:	55.8	54.9	51.0	47.1	55.6	56.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	73

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,147 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,797 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.9	70.8	69.0	63.0	71.6	72.2
Medium Trucks:	65.3	64.6	58.2	56.7	65.1	65.4
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	73.4	72.5	69.6	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	138	298	642	1,383
CNEL:	149	320	690	1,488

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,031 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,953 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.4
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.1	65.4	65.5
Vehicle Noise:	73.6	72.7	69.7	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	656	1,412
CNEL:	152	327	705	1,520

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,989 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.4	64.8	58.4	56.9	65.3	65.5
Heavy Trucks:	65.5	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.6	72.7	69.7	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	306	659	1,419
CNEL:	153	329	709	1,527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Scottsdale Drive to I-5 SB Off- Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,976 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.1	71.8	72.4
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.5	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.6	72.7	69.7	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	305	658	1,417
CNEL:	152	328	707	1,524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: I-405 NB Off-Ramp to San Leandro

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,001 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,703 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.90	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	69.0	62.9	71.5	72.1
Medium Trucks:	65.2	64.5	58.1	56.6	65.1	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.4	72.4	69.5	64.6	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	294	633	1,364
CNEL:	147	316	681	1,468

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: San Leandro to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,202	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,389	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	281	605	1,303
CNEL:	140	302	651	1,402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Harvard Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,683	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,346	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.8	64.2	57.8	56.3	64.7	64.9
Heavy Trucks:	64.9	64.3	55.2	56.5	64.8	65.0
Vehicle Noise:	73.0	72.1	69.1	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	129	279	601	1,295
CNEL:	139	300	646	1,393

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Trabuco Road to Farwell Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,294 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,057 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.22	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.02	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.98	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.9
Medium Trucks:	65.9	65.2	58.9	57.3	65.8	66.0
Heavy Trucks:	65.9	65.3	56.3	57.6	65.9	66.0
Vehicle Noise:	74.1	73.2	70.2	65.3	73.9	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	145	313	674	1,453
CNEL:	156	337	725	1,563

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,629 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,259 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.9
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.9	72.0	69.1	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	275	593	1,277
CNEL:	137	296	638	1,374

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Main Street to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,144 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,137 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.1	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	270	581	1,253
CNEL:	135	290	626	1,348

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Warner Avenue to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,921 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,036 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.2	70.9	71.5
Medium Trucks:	64.5	63.8	57.5	55.9	64.4	64.6
Heavy Trucks:	64.5	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.7	71.8	68.8	63.9	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	265	572	1,232
CNEL:	133	286	615	1,326

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Walnut Avenue to Scottsdale Dive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,508 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,002 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.3	62.2	70.8	71.4
Medium Trucks:	64.5	63.8	57.4	55.9	64.4	64.6
Heavy Trucks:	64.5	63.9	54.9	56.1	64.5	64.6
Vehicle Noise:	72.7	71.7	68.8	63.9	72.5	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	264	569	1,225
CNEL:	132	284	612	1,318

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,184 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,893 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.08	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.16	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.3	55.8	64.2	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.5	71.6	68.7	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	120	259	558	1,203
CNEL:	129	279	601	1,294

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Shady Canyon Drive to Palo Verde

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,206 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,245 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.8	70.9	67.9	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	371	799
CNEL:	86	185	399	860

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Deerfield Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,819 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,698 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.1	63.5	57.1	55.6	64.0	64.2
Heavy Trucks:	64.2	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	540	1,162
CNEL:	125	269	580	1,251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Sandburg Way to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,901 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,622 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.0	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.4	55.7	64.1	64.2
Vehicle Noise:	72.2	71.3	68.3	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	247	532	1,146
CNEL:	123	266	572	1,233

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,101 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,556 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.0	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.1	71.2	68.3	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	526	1,133
CNEL:	122	262	566	1,218

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Palo Verde to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,255 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,001 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	344	740
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: University Drive to Sandburg Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,605	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,350	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.5	61.4	70.0	70.7
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	63.7	63.1	54.1	55.4	63.7	63.8
Vehicle Noise:	71.9	71.0	68.0	63.1	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	234	505	1,088
CNEL:	117	252	543	1,171

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Farwell Avenue to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,503 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,919 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.11	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.13	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.08	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.3	68.6	62.5	71.1	71.7
Medium Trucks:	64.8	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	64.8	64.2	55.2	56.5	64.8	64.9
Vehicle Noise:	73.0	72.1	69.1	64.2	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	264	569	1,226
CNEL:	132	284	612	1,319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Campus Drive to High School

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,178	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,315	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	68.0	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	502	1,081
CNEL:	116	250	540	1,163

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: High School to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,525	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,261	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.5	55.0	63.5	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.8	70.8	67.9	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	496	1,069
CNEL:	115	248	534	1,150

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Bryan Avenue to Florence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,270	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,075	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.3	62.7	56.3	54.7	63.2	63.4
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	221	477	1,028
CNEL:	111	238	513	1,106

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Portola Parkway to Settlers

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,591 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,781 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	148	318	685
CNEL:	74	159	342	737

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Florence to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,440 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,006 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	470	1,013
CNEL:	109	235	506	1,089

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Irvine Boulevard to Viewpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,912	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,303	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	848
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Viewpark to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,661 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,282 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.76	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.1
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	391	843
CNEL:	91	195	421	906

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Settlers to Furrow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,425	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	943	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	59.8	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	68.0	67.1	64.2	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	208	448
CNEL:	48	104	224	482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Culver Drive
Road Segment: Meadowood to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,435 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,603 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.5
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	143	309	666
CNEL:	72	154	333	716

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Discovery Drive
Road Segment: Irvine Center Drive to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,932 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	737 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.5	60.4	58.7	52.6	61.2	61.8
Medium Trucks:	55.5	54.8	48.4	46.9	55.4	55.6
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	63.5	62.6	59.3	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	224
CNEL:	24	52	111	240

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Discovery Drive
Road Segment: Waterworks Way to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,423 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	365 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-23.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-27.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.4	57.4	55.6	49.6	58.2	58.8
Medium Trucks:	52.4	51.7	45.4	43.8	52.3	52.5
Heavy Trucks:	53.7	53.1	44.1	45.4	53.7	53.8
Vehicle Noise:	60.5	59.6	56.3	51.7	60.3	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	70	150

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: East Yale Loop
Road Segment: Alton Parkway to Witherspoon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,625 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,042 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.0	56.3	49.9	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.8	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	282
CNEL:	30	65	140	302

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: East Yale Loop
Road Segment: Osborn Street to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,855 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	978 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	56.7	56.0	49.7	48.1	56.6	56.8
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	64.7	63.8	60.6	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	126	271
CNEL:	29	62	135	290

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: East Yale Loop
Road Segment: Yale Avenue to Springbrook South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,084 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	832 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	61.0	59.2	53.1	61.8	62.4
Medium Trucks:	56.0	55.3	49.0	47.4	55.9	56.1
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.0	63.1	59.9	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	260

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: East Yale Loop
Road Segment: Springbrook North to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,140 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	672 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.3	52.2	60.8	61.4
Medium Trucks:	55.1	54.4	48.0	46.5	55.0	55.2
Heavy Trucks:	56.4	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	63.1	62.2	58.9	54.4	62.9	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	98	211
CNEL:	23	49	105	226

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: East Yale Loop
Road Segment: Woodspring to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,731 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	555 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.4	51.4	60.0	60.6
Medium Trucks:	54.2	53.6	47.2	45.7	54.1	54.4
Heavy Trucks:	55.6	55.0	45.9	47.2	55.5	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	186
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: East Yale Loop
Road Segment: Barranca Parkway to Eastshore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,747 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	557 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.98	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.5	51.4	60.0	60.6
Medium Trucks:	54.3	53.6	47.2	45.7	54.1	54.4
Heavy Trucks:	55.6	55.0	45.9	47.2	55.6	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	186
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Eastwood
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,973 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	245 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.96	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.20	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.16	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.0	56.9	55.1	49.1	57.7	58.3
Medium Trucks:	52.2	51.5	45.2	43.6	52.1	52.3
Heavy Trucks:	54.0	53.5	44.4	45.7	54.0	54.2
Vehicle Noise:	60.2	59.3	55.9	51.5	60.0	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	38	81
CNEL:	9	19	40	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Eastwood
Road Segment: Columbus to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,023 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	167 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.64	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-25.87	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-29.83	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.3	55.2	53.5	47.4	56.0	56.6
Medium Trucks:	50.5	49.9	43.5	41.9	50.4	50.6
Heavy Trucks:	52.4	51.8	42.7	44.0	52.4	52.5
Vehicle Noise:	58.5	57.6	54.2	49.8	58.3	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	29	63
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: El Camino Real
Road Segment: Jamboree Road to Alliance (SR-261 Bridge)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,775 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,549 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	66.7	65.8	62.6	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	368
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: El Camino Real North
Road Segment: El Camino Real to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,510 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	537 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	54.1	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	58.0	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	182
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Fairbanks
Road Segment: Alton Parkway to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,025 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,487 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.28	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-16.95	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-20.91	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.4	68.5	65.3	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Fairbanks
Road Segment: Irvine Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,256 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	764 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.61	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.85	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.80	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	66.5	65.6	62.4	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	100	214
CNEL:	23	49	107	230

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Fairchild Road
Road Segment: MacArthur Boulevard to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,074 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	584 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	55.7	55.0	48.6	47.1	55.6	55.8
Heavy Trucks:	56.5	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Gateway Boulevard
Road Segment: Alton Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,311 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,181 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-16.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-20.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.5	53.9	47.5	46.0	54.4	54.6
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	62.5	61.7	58.0	53.9	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	194
CNEL:	21	44	96	206

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Gateway Boulevard
Job Number: 15937
Road Segment: Spectrum Center Drive (Fortune Drive) to Alton Parkway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,892 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	899 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.9	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	53.3	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	55.8	55.2	46.2	47.5	55.8	55.9
Vehicle Noise:	61.4	60.5	56.9	52.7	61.2	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	75	162
CNEL:	17	37	80	172

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Gateway Boulevard
Road Segment: Irvine Center Drive to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	426 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-3.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-21.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-25.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.6	54.5	52.8	46.7	55.3	55.9
Medium Trucks:	50.1	49.4	43.1	41.5	50.0	50.2
Heavy Trucks:	52.6	52.0	43.0	44.2	52.6	52.7
Vehicle Noise:	58.1	57.2	53.6	49.4	57.9	58.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	46	98
CNEL:	10	23	49	105

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Great Park Boulevard
Road Segment: Sand Canyon to Ridge Valley

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,232 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,402 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.91	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.33	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.29	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.2	71.1	69.3	63.3	71.9	72.5
Medium Trucks:	65.7	65.1	58.7	57.2	65.6	65.9
Heavy Trucks:	66.1	65.6	56.5	57.8	66.1	66.3
Vehicle Noise:	73.9	72.9	69.9	65.1	73.7	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	227	489	1,053
CNEL:	113	244	525	1,131

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Great Park Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,670 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	259	559
CNEL:	60	129	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Great Park Boulevard (EB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,039 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	581 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.77	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-22.01	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.96	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.0	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.8	66.8	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	258
CNEL:	28	60	129	277

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Great Park Boulevard (WB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,351 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	524 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.22	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-22.45	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-26.41	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.7	65.4	66.0
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	67.3	66.4	63.4	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: University Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,732 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,793 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.58	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-16.65	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-20.61	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.4	62.8	56.4	54.9	63.3	63.6
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	71.5	70.6	67.5	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	459
CNEL:	49	106	229	493

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Michelson Drive to Coronado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,408 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	599
CNEL:	64	138	298	643

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: San Marino to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,906 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,302 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.7	68.8	65.7	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	581
CNEL:	62	134	289	624

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Coronado to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,017 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,311 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.7	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.7	68.8	65.7	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	583
CNEL:	63	135	290	625

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: San Carlo to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,164 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,241 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	52.9	61.4	61.6
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	69.6	68.7	65.5	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	265	571
CNEL:	61	132	284	612

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Main Street to San Carlo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,657 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,199 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.4	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.5	68.6	65.5	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	262	564
CNEL:	60	130	281	605

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Alton Parkway to San Leon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	239	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: San Juan to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,509 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,692 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	220	473
CNEL:	51	109	236	508

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: San Leon to San Juan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,160	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,663	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.1	60.5	51.4	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,559 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,284 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.5	65.1	65.7
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	67.2	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	394
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Deerfield Avenue to Poplar Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,473	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,277	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.2	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	182	392
CNEL:	42	91	195	421

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,409 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	419
CNEL:	45	97	209	449

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Bridge Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,962 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,317 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.3	66.4	63.2	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	186	401
CNEL:	43	93	199	430

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Paseo Westpark to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,630	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,372	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	60.2	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	67.5	66.6	63.4	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	191	412
CNEL:	44	95	205	442

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Poplar Street to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,344 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,101 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.53	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-18.77	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-22.73	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.5	67.6	64.4	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	412

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: California Avenue to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,155 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	367
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Culver Drive to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,746 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,134 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.2
Medium Trucks:	58.6	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.6	65.7	62.6	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	363
CNEL:	39	84	181	389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Berkeley to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,010 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,156 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.7	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	367
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Harvard Avenue
Road Segment: Warner Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,106 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	357
CNEL:	38	82	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Hicks Canyon Drive
Road Segment: Delamesa to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	191 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.06	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	75.75	-25.30	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	81.57	-29.25	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	54.9	53.1	47.1	55.7	56.3
Medium Trucks:	50.2	49.5	43.1	41.6	50.1	50.3
Heavy Trucks:	52.0	51.4	42.4	43.6	52.0	52.1
Vehicle Noise:	58.2	57.3	53.9	49.5	58.0	58.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Hornet (5th St)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,316 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	274 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-5.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-22.27	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-26.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.3	53.3	51.5	45.5	54.1	54.7
Medium Trucks:	49.2	48.5	42.1	40.6	49.1	49.3
Heavy Trucks:	52.4	51.8	42.8	44.0	52.4	52.5
Vehicle Noise:	57.2	56.4	52.5	48.6	57.1	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	52
CNEL:	5	12	25	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Hubble
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,224 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	183 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.76	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.00	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.96	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.6	51.5	49.8	43.7	52.3	52.9
Medium Trucks:	47.4	46.8	40.4	38.9	47.3	47.6
Heavy Trucks:	50.7	50.1	41.0	42.3	50.6	50.8
Vehicle Noise:	55.5	54.7	50.7	46.8	55.3	55.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	18	39
CNEL:	4	9	19	42

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: SR-133 NB Off- Ramp to Ridge Valley (O Street)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,105 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,474 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	72.0	71.1	68.2	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	240	518	1,115
CNEL:	120	258	557	1,200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: SR-133 SB Off-Ramp to SR-133 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,055 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,387 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.9	71.0	68.1	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	236	509	1,096
CNEL:	118	254	547	1,179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Sand Canyon to SR-133 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,768 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.94	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.30	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.26	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.1	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	257	554	1,194
CNEL:	128	277	596	1,285

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Merit to Alton

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.3	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,001
CNEL:	108	232	500	1,077

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Journey to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,910	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,963	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.4	70.4	67.5	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,003
CNEL:	108	232	501	1,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,235 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,659 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.4	62.7	62.8
Vehicle Noise:	70.9	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	433	933
CNEL:	100	216	466	1,004

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Pusan Way to Chinon (B Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,080 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Palo Lado to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,118 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,320 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.83	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.2
Vehicle Noise:	70.3	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	395	852
CNEL:	92	197	425	916

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Culver Drive to Palo Lado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,351 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	859
CNEL:	92	199	429	925

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,294 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,334 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.2
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	855
CNEL:	92	198	427	920

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Old Myford Road to Market Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,891 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,301 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	847
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Bosque (LY Street) to Modjeska

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,374 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.7	52.6	53.9	62.2	62.3
Vehicle Noise:	70.4	69.5	66.5	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	186	402	865
CNEL:	93	200	432	931

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Jamboree Road to Old Myford Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,513	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,270	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	840
CNEL:	90	195	419	903

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Market Place to SR-261 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,325	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,254	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	54.9	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	388	836
CNEL:	90	194	417	899

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Jeffrey Road to Groveland

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,451 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.5	69.6	66.7	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	884
CNEL:	95	205	441	951

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Bake Parkway to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,011 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,476 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.6	69.6	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	890
CNEL:	96	206	444	957

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Independence Way (The Groves)/The Groves to JeffreyRoad

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,709 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,286 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	392	844
CNEL:	91	196	421	908

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Chinon (B Street) to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: SR-261 NB Off-Ramp to Central Park

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,097 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,153 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.51	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.73	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.69	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	811
CNEL:	87	188	405	872

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Pueblo Norte to Independence Way (The Groves)/ Parkwood

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,190 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,078 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	367	792
CNEL:	85	183	395	852

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Yale Avenue to Pueblo Norte

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,057 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,067 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.6	61.0	52.0	53.3	61.6	61.7
Vehicle Noise:	69.8	68.9	65.9	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	849

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Modjeska to Pusan Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,148 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Central Park Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,685 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,871 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	738
CNEL:	79	171	369	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Parker to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,409 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,849 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.2	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	69.3	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	340	732
CNEL:	79	170	366	788

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Boulevard
Road Segment: Alton Parkway to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,955 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,481 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.3	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	632
CNEL:	68	146	315	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Irvine Center Drive
Job Number: 15937
Road Segment: Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,275 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,230 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.86	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.38	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.34	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.1	63.5	57.1	55.6	64.0	64.2
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.3	71.3	68.3	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	237	510	1,099
CNEL:	118	254	548	1,181

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Orange Tree to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,698 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,605 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.4	56.0	54.5	62.9	63.1
Heavy Trucks:	63.4	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	71.2	70.2	67.2	62.4	71.0	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	210	452	974
CNEL:	105	225	486	1,046

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: I-405 SB Off-Ramp to Research

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,454 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,832 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.43	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.81	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.77	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.1	63.5	54.5	55.8	64.1	64.2
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	222	478	1,029
CNEL:	111	238	513	1,106

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Irvine Valley College to Orange Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,382 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,496 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	206	443	954
CNEL:	103	221	476	1,025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Fontaine Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,987 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,299 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.42	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.6	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	70.8	69.9	66.8	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	918
CNEL:	99	212	458	986

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Culver Drive to Deerwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,661 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,272 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	197	424	913
CNEL:	98	211	455	981

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Deerwood to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,150 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,230 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.3	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	420	905
CNEL:	97	210	451	972

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Yale Avenue to Fontaine Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,813 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,202 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.65	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.59	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	97	208	449	967

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Jeffrey Road to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,074 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,306 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.4	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.8	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	919
CNEL:	99	213	458	988

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Alton Parkway to Spectrum

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,648 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,858 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.9	52.8	54.1	62.4	62.5
Vehicle Noise:	70.2	69.2	66.2	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	387	834
CNEL:	90	193	416	896

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Spectrum to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,982 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,803 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	824
CNEL:	88	191	411	885

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Hearthstone to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,389 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,002 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.83	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.3
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	862
CNEL:	93	200	430	926

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Charter to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,888 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,713 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	374	806
CNEL:	87	187	402	866

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Jamboree Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,538 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,767 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	816
CNEL:	88	189	407	877

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Pacifica to Entertainment (Enterprise/Fortune)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,656 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,777 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	380	818
CNEL:	88	189	408	879

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,525 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,601 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	783
CNEL:	84	181	391	842

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Harvard Avenue to Hearthstone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,072 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,563 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.7	68.8	65.7	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	360	776
CNEL:	83	180	387	834

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Research to Hubble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,150 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,487 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.69	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	353	760
CNEL:	82	176	379	817

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Barranca Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,369	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,258	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	331	713
CNEL:	77	165	356	766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,012 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,559 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.7	68.8	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	167	360	775
CNEL:	83	179	386	833

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Discovery to Charter

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,747 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,207 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	702
CNEL:	75	163	350	754

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,424 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,427 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	80	173	373	804

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Muller to Tesla

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,797 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,293 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	334	720
CNEL:	77	167	359	774

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Sand Canyon Avenue to Odyssey

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,063 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	671
CNEL:	72	155	335	721

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Tesla to Scientific Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,203 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,162 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.25	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	693
CNEL:	74	160	345	744

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Scientific Way to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,631 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,032 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.7	67.8	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	665
CNEL:	71	154	331	714

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Gateway Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,437 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,769 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	68.1	67.2	64.1	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	281	606
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Laguna Canyon Road to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,659 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,704 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	59.8	59.1	52.7	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	63.9	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	591
CNEL:	64	137	295	635

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive
Road Segment: Odyssey to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,273 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,755 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	603
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Irvine Center Drive (Edinger)
Road Segment: Redhill Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,743 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,114 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.71	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.67	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	883
CNEL:	95	204	441	949

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: I-5 SB Off-Ramp to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,825 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,761 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.1	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	73.3	70.4	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	156	337	725	1,562
CNEL:	168	362	780	1,681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	77,890	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	6,426	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.26	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-11.98	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-15.94	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.6	72.5	70.7	64.7	73.3	73.9
Medium Trucks:	66.9	66.3	59.9	58.4	66.8	67.1
Heavy Trucks:	67.0	66.4	57.3	58.6	67.0	67.1
Vehicle Noise:	75.1	74.2	71.2	66.4	74.9	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	170	367	791	1,704
CNEL:	183	395	851	1,833

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Walnut Avenue to Michelle Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,833 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,936 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.13	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.6	69.7	64.8	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	654	1,409
CNEL:	152	327	704	1,516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: I-405 NB Off-Ramp to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	79,710	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	6,576	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.36	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.88	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-15.84	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.0	74.0	72.2	66.1	74.8	75.4
Medium Trucks:	68.4	67.7	61.4	59.8	68.3	68.5
Heavy Trucks:	68.4	67.9	58.8	60.1	68.4	68.6
Vehicle Noise:	76.6	75.7	72.7	67.9	76.4	76.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	267	576	1,241	2,673
CNEL:	288	619	1,335	2,875

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Michelle Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,450 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,657 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.2
Heavy Trucks:	65.2	64.6	55.5	56.8	65.1	65.3
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	292	629	1,356
CNEL:	146	314	677	1,458

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Main Street to Kelvin Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	67,444 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.63	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.61	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.56	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.3	73.2	71.5	65.4	74.0	74.6
Medium Trucks:	67.7	67.0	60.7	59.1	67.6	67.8
Heavy Trucks:	67.7	67.1	58.1	59.4	67.7	67.8
Vehicle Noise:	75.9	75.0	72.0	67.1	75.7	76.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	239	515	1,110	2,391
CNEL:	257	554	1,194	2,572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	84,006 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,931 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	130 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	88.792
Medium Trucks:	88.747
Heavy Trucks:	88.792

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.59	-3.84	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.65	-3.84	-1.20	*-4.96*	0.000	0.000
Heavy Trucks:	86.40	-15.61	-3.84	-1.20	*-5.14*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.3	71.3	69.5	63.4	72.1	72.7
Medium Trucks:	65.7	65.0	58.7	57.1	65.6	65.8
Heavy Trucks:	65.7	65.2	56.1	57.4	65.7	65.9
Vehicle Noise:	73.9	73.0	70.0	65.1	73.7	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	194	418	901	1,940
CNEL:	209	450	969	2,088

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Kelvin Avenue to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,646	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,168	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.31	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.93	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.88	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.0	72.9	71.2	65.1	73.7	74.3
Medium Trucks:	67.4	66.7	60.3	58.8	67.3	67.5
Heavy Trucks:	67.4	66.8	57.8	59.0	67.4	67.5
Vehicle Noise:	75.6	74.6	71.7	66.8	75.4	75.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	228	490	1,057	2,276
CNEL:	245	528	1,137	2,449

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,804 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,099 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.25	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.99	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.94	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.9	72.9	71.1	65.0	73.7	74.3
Medium Trucks:	67.3	66.6	60.3	58.7	67.2	67.4
Heavy Trucks:	67.3	66.8	57.7	59.0	67.3	67.5
Vehicle Noise:	75.5	74.6	71.6	66.7	75.3	75.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	226	486	1,047	2,256
CNEL:	243	523	1,126	2,427

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Birch Street to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,836 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,699 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.1	63.5	57.1	55.6	64.0	64.2
Heavy Trucks:	64.2	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	540	1,163
CNEL:	125	269	581	1,251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,671 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,180 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.39	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.85	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.80	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.6	68.9	62.8	71.4	72.0
Medium Trucks:	65.1	64.4	58.0	56.5	65.0	65.2
Heavy Trucks:	65.1	64.5	55.5	56.7	65.1	65.2
Vehicle Noise:	73.3	72.3	69.4	64.5	73.1	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	276	594	1,280
CNEL:	138	297	639	1,377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Alton Parkway to Beckman

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,746	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,682	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.88	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.36	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.31	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.6	72.5	70.7	64.7	73.3	73.9
Medium Trucks:	66.9	66.3	59.9	58.4	66.8	67.1
Heavy Trucks:	67.0	66.4	57.4	58.6	67.0	67.1
Vehicle Noise:	75.1	74.2	71.2	66.4	74.9	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	213	459	989	2,131
CNEL:	229	494	1,064	2,293

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Fairchild Road to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,728	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,855	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.04	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.20	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.16	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.4	71.1	71.7
Medium Trucks:	64.7	64.0	57.7	56.1	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	563	1,212
CNEL:	130	281	605	1,304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Beckman to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,974 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,453 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.66	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.57	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.53	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.3	72.3	70.5	64.5	73.1	73.7
Medium Trucks:	66.7	66.1	59.7	58.1	66.6	66.8
Heavy Trucks:	66.8	66.2	57.1	58.4	66.7	66.9
Vehicle Noise:	74.9	74.0	71.0	66.2	74.7	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	206	444	957	2,061
CNEL:	222	478	1,029	2,217

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: I-5 NB Off-Ramp to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,710	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,349	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	66.0	59.6	58.0	66.5	66.7
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	942	2,029
CNEL:	218	470	1,013	2,182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Campus Drive to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,224 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,483 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.60	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.64	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.60	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.1	62.0	70.6	71.2
Medium Trucks:	64.3	63.6	57.2	55.7	64.2	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.5	71.5	68.6	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	526	1,133
CNEL:	122	263	566	1,219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: El Camino Real to West Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,735	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,351	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	66.0	59.6	58.0	66.5	66.7
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	942	2,029
CNEL:	218	470	1,013	2,183

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: West Drive to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,526	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,333	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.55	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.69	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.65	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	65.9	59.6	58.0	66.5	66.7
Heavy Trucks:	66.6	66.1	57.0	58.3	66.6	66.7
Vehicle Noise:	74.8	73.9	70.9	66.0	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	436	939	2,024
CNEL:	218	469	1,011	2,177

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,213 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,060 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.26	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.98	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.93	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.9	71.9	70.1	64.0	72.7	73.3
Medium Trucks:	66.3	65.7	59.3	57.7	66.2	66.4
Heavy Trucks:	66.4	65.8	56.7	58.0	66.3	66.5
Vehicle Noise:	74.5	73.6	70.6	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	194	418	900	1,938
CNEL:	208	449	968	2,085

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Koll Center to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,496 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,258 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.31	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.93	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.89	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.2	71.3	68.3	63.4	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	503	1,084
CNEL:	117	251	541	1,166

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: MacArthur Boulevard to Koll Center

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,695 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,275 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.33	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.91	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.86	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.6	67.8	61.7	70.4	71.0
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.0	63.5	54.4	55.7	64.0	64.2
Vehicle Noise:	72.2	71.3	68.3	63.4	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	234	505	1,087
CNEL:	117	252	543	1,170

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Irvine Boulevard to Portola Pakway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,887 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,466 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.4	61.7	55.3	53.8	62.3	62.5
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.6	69.6	66.7	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	191	412	887
CNEL:	95	206	443	954

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Warner Avenue to Edinger Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	85,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,054 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.66	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-11.58	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-15.53	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	77.2	76.1	74.4	68.3	76.9	77.6
Medium Trucks:	70.6	69.9	63.6	62.0	70.5	70.7
Heavy Trucks:	70.6	70.0	61.0	62.3	70.6	70.7
Vehicle Noise:	78.8	77.9	74.9	70.0	78.6	79.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	239	515	1,110	2,391
CNEL:	257	554	1,194	2,572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	70,769 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,838 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.84	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.40	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.35	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.4	75.3	73.6	67.5	76.1	76.7
Medium Trucks:	69.8	69.1	62.8	61.2	69.7	69.9
Heavy Trucks:	69.8	69.2	60.2	61.4	69.8	69.9
Vehicle Noise:	78.0	77.0	74.1	69.2	77.8	78.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	211	454	978	2,107
CNEL:	227	488	1,052	2,267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jamboree Road
Road Segment: Edinger Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,189 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,461 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.55	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.69	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.64	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.1	75.0	73.3	67.2	75.8	76.4
Medium Trucks:	69.5	68.8	62.5	60.9	69.4	69.6
Heavy Trucks:	69.5	68.9	59.9	61.1	69.5	69.6
Vehicle Noise:	77.7	76.7	73.8	68.9	77.5	77.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	434	936	2,016
CNEL:	217	467	1,006	2,168

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Walnut Avenue to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,962 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,534 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.9	62.3	55.9	54.4	62.8	63.0
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.0	70.1	67.0	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	205	442	953
CNEL:	102	220	474	1,022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: I-5 NB Off-Ramp to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,169 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,129 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.15	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.09	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.04	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.2	69.9	70.5
Medium Trucks:	63.9	63.2	56.8	55.3	63.8	64.0
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.0	71.1	67.9	63.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	487	1,049
CNEL:	113	242	522	1,125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Poplar (Meadows) to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,562 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,089 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	63.3	62.7	53.7	55.0	63.3	63.4
Vehicle Noise:	70.6	69.7	66.5	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	889
CNEL:	95	205	443	954

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,090 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,802 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.2	68.8
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	847
CNEL:	91	196	422	909

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Irvine Center Drive to Poplar (Meadows)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,470	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,916	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.98	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.22	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.2
Vehicle Noise:	70.4	69.5	66.3	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	401	864
CNEL:	93	200	430	927

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: I-405 NB Off-Ramp to Quail Creek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,688 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,769 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.2
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	391	842
CNEL:	90	195	419	903

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Barranca Parkway to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,426 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,748 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.2	69.3	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	389	839
CNEL:	90	194	418	900

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Quail Creek to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,819 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,780 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.82	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	392	844
CNEL:	91	195	420	905

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Irvine Valley College to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,854 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,618 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.60	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	380	819
CNEL:	88	189	408	879

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Trabuco Road to Hideaway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,135 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,146 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	747
CNEL:	80	173	372	801

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Hideaway to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,018 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,136 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.4
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	346	745
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Roosevelt to Grove

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,456	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,338	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.28	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.95	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.91	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	788
CNEL:	84	182	392	845

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Grove to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,151 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,312 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.25	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.99	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.94	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	62.0	61.3	54.9	53.4	61.9	62.1
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.1	69.2	66.0	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	784
CNEL:	84	181	390	841

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,995 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,392 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.84	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	667

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Encore to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,559 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,366 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-17.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-21.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	57.7	57.0	50.7	49.1	57.6	57.8
Heavy Trucks:	58.6	58.0	48.9	50.2	58.5	58.7
Vehicle Noise:	65.8	64.9	61.7	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	92	199	428
CNEL:	46	99	213	459

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeffrey Road
Road Segment: Irvine Boulevard to Encore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,038 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,241 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.1	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	186	401
CNEL:	43	93	200	431

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeronimo Road
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,433 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	696 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.6	59.9	53.8	62.4	63.0
Medium Trucks:	56.4	55.8	49.4	47.9	56.3	56.6
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.5	63.6	60.5	55.8	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	122	262
CNEL:	28	60	130	281

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Jeronimo Road
Road Segment: Alton Parkway to Goodyear

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,252 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	681 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.86	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.5	59.8	53.7	62.3	62.9
Medium Trucks:	56.4	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	64.4	63.5	60.4	55.7	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	258
CNEL:	28	60	128	277

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Old Laguna Canyon Road to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,167 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,386 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	281	605	1,303
CNEL:	140	302	650	1,401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Laguna Canyon Freeway to Quail Hill Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,794 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,385 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	269	579
CNEL:	62	134	289	623

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Discovery to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,943 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	903 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.7	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.8	66.9	64.0	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	202	435
CNEL:	47	101	217	468

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: I-405 Overcrossing to Pasteur

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,635 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	712 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.88	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.12	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.08	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Irvine Center Drive to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,104 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	751 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	67.0	66.1	63.2	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	83	179	385
CNEL:	41	89	192	414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Quail Hill Parkway to I-405 Overcrossing

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,635 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	712 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.88	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.12	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.08	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Pasteur to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,294 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	684 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	66.6	65.7	62.8	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	362
CNEL:	39	84	181	389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Waterworks to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	582 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	57.8	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	57.8	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	65.9	65.0	62.1	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	151	325
CNEL:	35	75	162	349

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,757 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	557 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.55	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.3	55.3	63.9	64.5
Medium Trucks:	57.6	56.9	50.5	49.0	57.4	57.7
Heavy Trucks:	57.6	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	65.8	64.8	61.9	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	68	147	316
CNEL:	34	73	158	340

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Laguna Canyon Road
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,177 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	510 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.7	61.0	54.9	63.5	64.1
Medium Trucks:	57.2	56.5	50.1	48.6	57.1	57.3
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	65.4	64.4	61.5	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Lake Forest Drive
Road Segment: Hidden Canyon to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,913 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,478 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	239	515
CNEL:	55	119	257	554

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Lake Forest Drive
Road Segment: Bake Parkway to Hidden Canyon (Romano)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,780 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,467 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	238	513
CNEL:	55	119	256	551

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Lake Forest Drive
Road Segment: Tesla to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,227 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,091 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-19.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-23.22	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	57.8	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	58.3	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	66.0	65.1	62.0	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	204	439
CNEL:	47	102	219	472

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Lake Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,127 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	505 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.36	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	70.80	-19.60	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	77.97	-23.56	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.1	55.0	53.3	47.2	55.8	56.4
Medium Trucks:	50.9	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	54.1	53.5	44.5	45.8	54.1	54.2
Vehicle Noise:	59.0	58.1	54.2	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Lynx
Road Segment: Irvine Boulevard to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,330 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	110 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-8.99	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-26.23	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-30.19	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.4	49.3	47.5	41.5	50.1	50.7
Medium Trucks:	45.2	44.5	38.2	36.6	45.1	45.3
Heavy Trucks:	48.4	47.8	38.8	40.0	48.4	48.5
Vehicle Noise:	53.3	52.4	48.5	44.6	53.1	53.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	13	28
CNEL:	3	6	14	30

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: I-405 SB Off-Ramp to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,170	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,717	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.54	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.70	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.66	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.6	73.6	71.8	65.8	74.4	75.0
Medium Trucks:	67.9	67.2	60.8	59.3	67.8	68.0
Heavy Trucks:	67.6	67.0	57.9	59.2	67.5	67.7
Vehicle Noise:	76.1	75.2	72.3	67.4	75.9	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	248	535	1,152	2,482
CNEL:	267	576	1,241	2,673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Main Street to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,639	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,838	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.65	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.59	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.55	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.8	73.7	71.9	65.9	74.5	75.1
Medium Trucks:	68.0	67.3	61.0	59.4	67.9	68.1
Heavy Trucks:	67.7	67.1	58.0	59.3	67.7	67.8
Vehicle Noise:	76.2	75.3	72.4	67.5	76.0	76.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	252	544	1,171	2,524
CNEL:	272	586	1,262	2,718

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: I-405 NB Off-Ramp and I-405 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,119	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,712	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.53	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.71	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.66	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.6	73.6	71.8	65.8	74.4	75.0
Medium Trucks:	67.9	67.2	60.8	59.3	67.8	68.0
Heavy Trucks:	67.6	67.0	57.9	59.2	67.5	67.7
Vehicle Noise:	76.1	75.2	72.3	67.4	75.9	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	248	534	1,151	2,480
CNEL:	267	575	1,240	2,671

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Jamboree Road to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,283 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.6
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	357	768
CNEL:	82	178	382	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Fairchild Road to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,766	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,198	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	62.3	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	69.5	68.6	65.4	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	163	350	755
CNEL:	81	174	376	810

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Fitch to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,798 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,448 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.43	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.81	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.77	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	173	374	805
CNEL:	86	186	401	864

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Michelson Drive to Douglas

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,849 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,370 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.33	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.91	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.87	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.4	62.8	56.4	54.9	63.3	63.5
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	71.5	70.6	67.5	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	264	568	1,224
CNEL:	131	283	610	1,313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Douglas to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,587 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,431 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.40	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.84	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.79	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	64.4	63.8	54.7	56.0	64.3	64.5
Vehicle Noise:	71.6	70.7	67.5	62.9	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	124	267	575	1,239
CNEL:	133	286	617	1,329

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Skypark to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,703 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,781 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.49	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.75	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.70	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	69.3	68.4	65.2	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	150	324	697
CNEL:	75	161	347	748

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Redhill Avenue to Skypark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,376 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.5	53.1	51.5	60.0	60.2
Heavy Trucks:	61.0	60.4	51.3	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Birch Street to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,634 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,620 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.1
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	223	480
CNEL:	51	111	239	514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: MacArthur Boulevard
Road Segment: Campus Drive to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,815	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.64	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-16.60	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-20.56	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	68.8	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	810
CNEL:	87	187	404	869

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Gillette Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,628 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,187 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.08	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.16	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.11	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.9	69.0	65.8	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	165	355	764
CNEL:	82	177	380	819

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: MacArthur Boulevard to Mercantile

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,531 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,014 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.84	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.40	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.35	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.6	60.9	54.5	53.0	61.5	61.7
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	736
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Executive Park to MacArthur Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,869 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,217 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.51	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.73	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.69	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.8	59.2	52.8	51.2	59.7	59.9
Heavy Trucks:	60.7	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	67.9	67.0	63.8	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	591
CNEL:	63	137	294	634

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Von Karman Avenue to Cartwright

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,763 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,043 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	560
CNEL:	60	129	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: McDurmott to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,767 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,126 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	124	267	575
CNEL:	62	133	286	617

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Red Hill Avenue to Executive Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,362 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,092 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.94	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.8	63.0	56.9	65.6	66.2
Medium Trucks:	59.6	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.7	66.7	63.6	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	264	569
CNEL:	61	131	283	610

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Jamboree Road to Union

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,079 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,987 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.3	58.7	52.3	50.8	59.2	59.5
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.4	66.5	63.4	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	274	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,221 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	67.0	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	381
CNEL:	41	88	190	409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Siglo to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,387 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,847 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.1
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	113	243	523
CNEL:	56	121	261	562

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Veneto to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,730	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,958	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.23	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.6	65.3	65.9
Medium Trucks:	59.3	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	60.1	59.5	50.5	51.8	60.1	60.2
Vehicle Noise:	67.4	66.5	63.3	58.6	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	544
CNEL:	58	126	271	584

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Paseo Westpark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,180	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,005	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Main Street
Road Segment: Harvard Avenue to San Mateo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,923 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	984 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	330
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Marine Way
Job Number: 15937
Road Segment: Sand Canyon Avenue to Ridge Valley (O Street)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,752 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,197 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.61	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	77.72	-13.63	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	82.99	-17.59	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	65.1	64.5	55.5	56.7	65.1	65.2
Vehicle Noise:	71.8	70.9	67.7	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	644
CNEL:	69	149	320	690

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: Alton Parkway to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,934 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,470 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.7	60.1	53.7	52.1	60.6	60.8
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.1
Vehicle Noise:	68.8	67.9	64.6	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	233	502
CNEL:	54	116	250	538

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: Lynx to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,584 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,688 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.1	68.2	65.0	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	247	531
CNEL:	57	123	264	569

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: County Access to Treble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,788 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,055 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.0	56.4	50.0	48.5	56.9	57.1
Heavy Trucks:	58.3	57.8	48.7	50.0	58.3	58.5
Vehicle Noise:	65.1	64.2	60.9	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	285
CNEL:	30	66	142	305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: Ridge Valley (O Street) to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,357 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,762 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.5	56.4	65.0	65.6
Medium Trucks:	59.3	58.6	52.2	50.7	59.1	59.4
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.3	66.4	63.1	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	186	401
CNEL:	43	92	199	429

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: Skyhawk to County Access

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,690 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	964 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.6	59.8	53.8	62.4	63.0
Medium Trucks:	56.6	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	58.0	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	64.7	63.8	60.5	56.0	64.5	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	268
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,956 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,316 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.0	61.2	55.1	63.8	64.4
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.0	65.1	61.9	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	330
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Marine Way
Road Segment: Treble to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,116 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,577 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.8	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.8	65.9	62.6	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: McGaw Avenue
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,998 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-18.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-22.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.2	60.1	58.3	52.3	60.9	61.5
Medium Trucks:	55.4	54.7	48.3	46.8	55.3	55.5
Heavy Trucks:	57.2	56.6	47.6	48.9	57.2	57.3
Vehicle Noise:	63.4	62.5	59.1	54.7	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	24	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: McGaw Avenue
Road Segment: Red Hill Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,035 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	993 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-22.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.2	60.1	58.3	52.3	60.9	61.5
Medium Trucks:	55.4	54.7	48.3	46.8	55.3	55.5
Heavy Trucks:	57.2	56.7	47.6	48.9	57.2	57.3
Vehicle Noise:	63.4	62.5	59.1	54.7	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	24	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: McGaw Avenue
Road Segment: Daimler to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,107 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	751 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.2	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	56.0	55.4	46.4	47.7	56.0	56.1
Vehicle Noise:	62.2	61.3	57.9	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: McGaw Avenue
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,320 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	356 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-22.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-26.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.7	55.7	53.9	47.8	56.5	57.1
Medium Trucks:	50.9	50.3	43.9	42.4	50.8	51.0
Heavy Trucks:	52.8	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	58.9	58.1	54.6	50.2	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	111
CNEL:	12	26	55	119

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Meadowood
Road Segment: Culver Drive to Canyonwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	901 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.6	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	51.5	50.8	44.4	42.9	51.3	51.6
Heavy Trucks:	54.7	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	59.5	58.7	54.8	50.9	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Meridian
Road Segment: Spectrum to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,338 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	193 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.2	51.1	49.3	43.3	51.9	52.5
Medium Trucks:	46.7	46.0	39.6	38.1	46.5	46.8
Heavy Trucks:	49.1	48.6	39.5	40.8	49.1	49.3
Vehicle Noise:	54.7	53.8	50.2	46.0	54.5	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	27	58
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Meridian
Road Segment: Alton Parkway to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,950 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	161 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-25.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-29.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.4	50.3	48.6	42.5	51.1	51.7
Medium Trucks:	45.9	45.2	38.8	37.3	45.8	46.0
Heavy Trucks:	48.4	47.8	38.7	40.0	48.3	48.5
Vehicle Noise:	53.9	53.0	49.4	45.2	53.7	54.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	51
CNEL:	5	12	25	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Merit
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,204 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	264 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-5.18	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-22.41	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-26.37	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.2	53.1	51.4	45.3	53.9	54.5
Medium Trucks:	49.0	48.4	42.0	40.5	48.9	49.1
Heavy Trucks:	52.2	51.6	42.6	43.9	52.2	52.3
Vehicle Noise:	57.1	56.2	52.3	48.4	56.9	57.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	23	50
CNEL:	5	12	25	53

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Riparian to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,861 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,886 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.9	60.3	51.2	52.5	60.9	61.0
Vehicle Noise:	67.6	66.7	63.4	58.9	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	195	419
CNEL:	45	97	208	449

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Almond Tree Lane to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,055 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	747 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.71	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.94	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.90	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.8	51.4	49.8	58.3	58.5
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	66.4	65.6	62.3	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	98	211
CNEL:	23	49	105	226

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Von Karman Avenue to Obsidian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,381 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,846 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	67.5	66.6	63.3	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	414
CNEL:	44	95	206	443

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Parkside to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,030	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,487	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.5	57.9	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	59.9
Vehicle Noise:	66.6	65.7	62.4	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	358
CNEL:	38	83	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Gillman to Seton/Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,623 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	711 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.92	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.16	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-24.11	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.2	65.3	62.1	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	205
CNEL:	22	47	102	219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Carlson to Prince

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,099	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,071	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.72	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	77.72	-15.52	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	82.99	-19.47	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.7	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	66.7	65.8	62.5	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	204	440
CNEL:	47	101	218	471

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: MacArthur Boulevard to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,637 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,538 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.7	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	66.7	65.8	62.5	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	366
CNEL:	39	84	182	392

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Harvard Avenue to Parkside

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,101 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,493 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.5	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	59.9	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	66.6	65.7	62.4	57.9	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	167	359
CNEL:	38	83	178	384

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Bixby to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,064 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,325 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	59.3	58.8	49.7	51.0	59.3	59.4
Vehicle Noise:	66.1	65.2	61.9	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	332
CNEL:	36	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Jamboree Road to Carlson

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,519 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,023 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.62	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.62	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.57	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.2	68.3	65.0	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	239	515
CNEL:	55	119	256	552

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Teller to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,548	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,025	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.63	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.61	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.57	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.2	68.3	65.0	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	239	516
CNEL:	55	119	256	552

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Jordan East to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,510 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	537 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.14	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-21.38	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-25.33	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.3	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	171
CNEL:	18	39	85	183

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Michelson Drive
Road Segment: Culver Drive to Angell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	709 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.93	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.17	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	82.99	-24.12	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.8	57.2	50.8	49.2	57.7	57.9
Heavy Trucks:	59.1	58.5	49.5	50.8	59.1	59.2
Vehicle Noise:	65.9	65.0	61.7	57.1	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	44	95	206
CNEL:	22	47	102	220

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Modjeska (A Street)
Road Segment: Portola Springs to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,121 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	27.659
Medium Trucks:	27.514
Heavy Trucks:	27.659

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.46	3.75	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	79.45	-18.69	3.79	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	84.25	-22.65	3.75	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	64.2	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	71.4	70.5	67.3	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	361
CNEL:	39	83	180	387

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Modjeska (A Street)
Road Segment: South of Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,669 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	138 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.56	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-27.80	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-31.76	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	57.5	55.7	49.6	58.3	58.9
Medium Trucks:	52.3	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	53.1	52.5	43.5	44.8	53.1	53.2
Vehicle Noise:	60.4	59.5	56.3	51.6	60.2	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	83
CNEL:	9	19	41	89

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Muirlands Boulevard
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,592 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,204 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Muirlands Boulevard
Road Segment: Alton Parkway to Sterling

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Muirlands Boulevard
Road Segment: Wrigley to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,711 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	966 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	57.9	57.2	50.8	49.3	57.8	58.0
Heavy Trucks:	58.7	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	70	151	326
CNEL:	35	75	162	350

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Newport Coast Drive
Road Segment: SR-73 NB Off-Ramp to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,431 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,438 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	58.4	57.7	51.3	49.8	58.3	58.5
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.4	65.5	62.2	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	163	350
CNEL:	37	81	174	375

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Newport Coast Drive
Road Segment: Turtle Crest to Bonita Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,390 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,022 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.9	56.2	49.9	48.3	56.8	57.0
Heavy Trucks:	58.2	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	64.9	64.0	60.8	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	129	279
CNEL:	30	64	139	299

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Nightmist
Road Segment: Sand Canyon Avenue to Tulip (Road C)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,094 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	998 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.3	58.2	56.5	50.4	59.0	59.6
Medium Trucks:	53.8	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	61.8	60.9	57.3	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	173
CNEL:	18	40	86	185

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Northwood
Road Segment: Yale Avenue to Savannah

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,646 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	383 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.02	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-22.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.8	57.1	51.0	59.6	60.3
Medium Trucks:	54.1	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	62.1	61.3	57.8	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	109
CNEL:	12	25	54	117

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Northwood
Road Segment: Goldrush to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,628 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	299 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.10	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.34	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.29	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.8	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	53.1	52.4	46.0	44.5	52.9	53.2
Heavy Trucks:	54.9	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	61.1	60.2	56.7	52.4	60.9	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	93
CNEL:	10	21	46	99

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Oak Canyon Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,939 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	655 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.79	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.03	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.98	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.5	56.4	65.0	65.6
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	51	109	235
CNEL:	25	54	117	252

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Pacifica
Road Segment: Gateway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,905 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	900 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.3	59.5	53.5	62.1	62.7
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	57.7	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	64.4	63.5	60.2	55.7	64.2	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	55	119	256
CNEL:	27	59	127	274

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Pacifica
Road Segment: Alton Parkway to Gateway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,790 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	643 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.55	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.8	58.1	52.0	60.6	61.2
Medium Trucks:	54.9	54.2	47.8	46.3	54.8	55.0
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	62.9	62.0	58.7	54.2	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	205
CNEL:	22	47	102	219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Pacifica
Job Number: 15937
Road Segment: Irvine Center Drive to Fortune Drive (Spectrum Center Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,857 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	648 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	54.9	54.2	47.9	46.3	54.8	55.0
Heavy Trucks:	56.2	55.6	46.6	47.9	56.2	56.3
Vehicle Noise:	63.0	62.1	58.8	54.2	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	44	96	206
CNEL:	22	47	102	220

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Pacifica
Road Segment: Meridian to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,742 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	309 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-23.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-27.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.7	56.7	54.9	48.8	57.5	58.1
Medium Trucks:	51.7	51.0	44.7	43.1	51.6	51.8
Heavy Trucks:	53.0	52.4	43.4	44.6	53.0	53.1
Vehicle Noise:	59.7	58.8	55.6	51.0	59.5	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	58	126
CNEL:	13	29	62	134

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Park Place
Road Segment: Christamon South to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,784 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	312 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.3	53.2	51.4	45.4	54.0	54.6
Medium Trucks:	48.8	48.1	41.7	40.2	48.6	48.9
Heavy Trucks:	51.2	50.6	41.6	42.9	51.2	51.3
Vehicle Noise:	56.8	55.9	52.3	48.1	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Portola Parkway
Job Number: 15937
Road Segment: Bee Canyon Access Road to Sand Canyon Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,658 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,869 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.5	69.2	69.8
Medium Trucks:	62.8	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	152	328	707
CNEL:	76	164	353	761

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Jeffrey Road to Bee Canyon Access Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,635 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,867 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.5	69.2	69.8
Medium Trucks:	62.8	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	71.0	70.1	67.1	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	152	328	707
CNEL:	76	164	353	760

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Arrowhead to Ridge Valley Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,644 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,868 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.5	69.2	69.8
Medium Trucks:	62.8	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	71.0	70.1	67.1	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	152	328	707
CNEL:	76	164	353	761

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Sand Canyon Avenue to Arrowhead

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,880 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,723 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	311	670
CNEL:	72	155	334	721

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Portola Springs to SR-241 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,931 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,397 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.7	68.8	65.9	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	582
CNEL:	63	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Gatepark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,146 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,157 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.1	66.1	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	377	812
CNEL:	87	188	405	873

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: ETC-6 (SR-261) NB Off-Ramp to Gatepark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,024 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,147 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	188	404	870

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Portola Parkway
Job Number: 15937
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,264 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,084 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.83	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	61.7	61.1	52.0	53.3	61.7	61.8
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	793
CNEL:	85	184	396	853

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Jamboree Road to Bellevue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,960 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,059 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.8	68.8	65.9	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	365	787
CNEL:	85	182	393	846

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Bellevue to ETC-6 (SR-261) SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,770 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,044 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.7	68.8	65.9	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	363	783
CNEL:	84	181	391	842

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Yale Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,831 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,966 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.6	68.6	65.7	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	763
CNEL:	82	177	381	821

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Culver Drive to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,489 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,773 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	60.9	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.0	60.4	51.3	52.6	61.0	61.1
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	331	712
CNEL:	77	165	356	766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Portola Parkway
Road Segment: Silverado to Portola Springs

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,969 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	987 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.0	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	68.2	67.3	64.4	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	462
CNEL:	50	107	231	497

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Pusan
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,434 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	201 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.37	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.61	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.57	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	51.9	50.2	44.1	52.7	53.3
Medium Trucks:	47.8	47.2	40.8	39.3	47.7	48.0
Heavy Trucks:	51.0	50.5	41.4	42.7	51.0	51.2
Vehicle Noise:	55.9	55.0	51.1	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	42
CNEL:	4	10	21	44

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Quail Hill Parkway
Road Segment: Shady Canyon Drive to Passage

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,960 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,317 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.3	66.4	63.2	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	186	401
CNEL:	43	93	199	430

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Quail Hill Parkway
Road Segment: East Knollcrest to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,254	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	846	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.1	57.5	48.5	49.8	58.1	58.2
Vehicle Noise:	65.4	64.5	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	148	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Quassar Drive (Spectrum)
Job Number: 15937
Road Segment: Irvine Center Drive to Spectrum Center Drive (Fortune)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,991 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	164 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.24	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.48	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	77.97	-28.44	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.8	50.7	48.9	42.9	51.5	52.1
Medium Trucks:	46.6	45.9	39.6	38.0	46.5	46.7
Heavy Trucks:	49.8	49.2	40.2	41.4	49.8	49.9
Vehicle Noise:	54.6	53.8	49.9	46.0	54.5	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	8	18	39

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: MacArthur Boulevard to McGaw Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,924 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,459 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.98	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.8	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.0	70.1	67.0	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	204	440	947
CNEL:	102	219	472	1,018

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: I-405 Over Crossing to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,812 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,717 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.5	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.6	60.8	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	264	570
CNEL:	61	132	284	612

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: Alton Parkway to Deere Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,843 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,545 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.65	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.59	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	772
CNEL:	83	179	385	830

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,669 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,448 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	752
CNEL:	81	174	375	808

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: Deere Avenue to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,582 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,440 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.5	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	751
CNEL:	81	174	374	807

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: Skypark East to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,882 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,640 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.26	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.50	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.45	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	301	648
CNEL:	70	150	323	696

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Red Hill Avenue
Road Segment: Main Street to Skypark East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,274	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,425	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.87	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.11	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.06	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	590
CNEL:	63	136	294	633

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Research Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,761 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,043 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.1	60.5	54.1	52.5	61.0	61.2
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.2	68.3	65.1	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	537
CNEL:	58	124	267	576

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Research Drive
Road Segment: Scientific to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,994 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,320 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.2	58.6	52.2	50.6	59.1	59.3
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.3	66.4	63.2	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	186	401
CNEL:	43	93	200	430

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Research Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,604 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,040 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.0	58.4	49.4	50.7	59.0	59.1
Vehicle Noise:	66.3	65.4	62.2	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Research Drive
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,824 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	810 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	65.2	64.3	61.1	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	135	290
CNEL:	31	67	144	311

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Irvine Boulevard to Trabuco Road (Great Park Boulevard)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,535 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,282 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.5	65.1	65.7
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.0
Vehicle Noise:	67.2	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	393
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Ridge Valley (O Street)
Road Segment: Portola Parkway to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,575 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,037 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	58.2	57.5	51.1	49.6	58.1	58.3
Heavy Trucks:	59.0	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	66.3	65.4	62.2	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Trabuco Road (Great Park Boulevard) to Marine Way

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	918 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Ridge Valley (O Street)
Road Segment: Ranchland to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	935 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	77 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-13.08	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-30.31	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-34.27	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	55.0	53.2	47.1	55.8	56.4
Medium Trucks:	49.8	49.1	42.8	41.2	49.7	49.9
Heavy Trucks:	50.6	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	57.9	56.9	53.8	49.1	57.7	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	61

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Ridgeline Drive
Road Segment: Concordia East to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,575	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,285	vehicles
Vehicle Speed:	35	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	40.0	feet
Centerline Dist. to Observer:	40.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.23	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.01	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-20.96	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.3	57.2	65.8	66.5
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	68.3	67.5	64.0	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	301
CNEL:	32	69	149	322

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Ridgeline Drive
Road Segment: Turtle Rock Drive to San Simeon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,257 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,176 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.15	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.39	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.35	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	60.0	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	67.9	67.1	63.6	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	284
CNEL:	30	65	141	303

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Rockfield Avenue
Road Segment: Whatney to McLaren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,880	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,310	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	67.3	66.4	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	185	399
CNEL:	43	92	199	428

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Rockfield Avenue
Road Segment: Bake Parkway to Whatney

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,694 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	552 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	55.4	54.8	48.4	46.9	55.3	55.6
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.5	62.6	59.5	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	224
CNEL:	24	52	112	241

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Rockfield Avenue
Road Segment: Thomas to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,145 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	424 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	54.3	53.6	47.3	45.7	54.2	54.4
Heavy Trucks:	55.1	54.6	45.5	46.8	55.1	55.2
Vehicle Noise:	62.4	61.5	58.3	53.6	62.2	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	87	188
CNEL:	20	44	94	202

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Roosevelt
Road Segment: Jeffrey Road to Vision

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,443 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,274 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.9	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	59.2	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	65.9	65.0	61.7	57.2	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	323
CNEL:	35	75	161	346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Roosevelt
Road Segment: Yale Avenue to Van Buren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,812 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	727 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.82	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-20.06	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-24.02	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.5	66.2
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	67.8	66.9	63.6	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	209
CNEL:	22	48	104	223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Roosevelt
Road Segment: Vision to Bay Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,654 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,209 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.6	57.0	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.0
Vehicle Noise:	65.7	64.8	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	312
CNEL:	33	72	155	334

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Roosevelt
Road Segment: Nimitz to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,187 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,170 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.7	54.6	63.2	63.9
Medium Trucks:	57.5	56.8	50.4	48.9	57.4	57.6
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	65.5	64.6	61.3	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	142	305
CNEL:	33	70	152	327

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Roosevelt
Road Segment: Tulip (Road C) to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,745 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,134 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.3	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	58.7	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.4	64.5	61.2	56.7	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	299
CNEL:	32	69	149	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Royal Oak
Road Segment: Alton Parkway to Eaglecreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	398 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.86	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	75.75	-22.09	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	81.57	-26.05	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	63.8	62.9	59.5	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Oak Canyon Drive to Burt Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,414 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,994 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.1	61.0	69.7	70.3
Medium Trucks:	63.5	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.6	70.7	67.6	62.9	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	225	484	1,043
CNEL:	112	241	520	1,120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Irvine Center Drive to Oak Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,483 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,752 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	464	1,000
CNEL:	107	232	499	1,075

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: I-405 NB Off-Ramp to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,364 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,660 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.23	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.01	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.97	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.8
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.5	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.2	73.3	70.2	65.4	74.0	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	238	513	1,106
CNEL:	119	256	551	1,188

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Burt Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,493	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,248	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.87	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.36	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.32	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.2	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.6	64.0	54.9	56.2	64.6	64.7
Vehicle Noise:	72.3	71.4	68.3	63.5	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	237	512	1,102
CNEL:	118	255	550	1,184

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Marine to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,568	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,914	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.51	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.73	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.69	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.8	63.7	72.3	72.9
Medium Trucks:	66.2	65.5	59.1	57.6	66.0	66.3
Heavy Trucks:	66.6	66.0	57.0	58.2	66.6	66.7
Vehicle Noise:	74.3	73.4	70.3	65.5	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	188	404	871	1,876
CNEL:	202	434	935	2,015

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Trabuco Road to Towngate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,099 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,473 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.00	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.24	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.9	62.2	55.8	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.0	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	205	441	950
CNEL:	102	220	474	1,021

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,308 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,995 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.36	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	400	861
CNEL:	92	199	429	925

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: I-5 SB Off-Ramp to Marine

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,577 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,090 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.71	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.53	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.49	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	69.0	62.9	71.5	72.1
Medium Trucks:	65.4	64.7	58.3	56.8	65.3	65.5
Heavy Trucks:	65.8	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	73.5	72.6	69.5	64.8	73.3	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	166	358	770	1,660
CNEL:	178	384	828	1,783

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Hospital to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,821 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	384	827
CNEL:	89	191	412	889

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Nightmist to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,045 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,799 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.39	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.85	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.81	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	65.0	64.4	58.0	56.5	64.9	65.2
Heavy Trucks:	65.5	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.2	72.3	69.2	64.4	73.0	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	158	340	733	1,580
CNEL:	170	366	788	1,697

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: I-405 SB Off-Ramp to I-405 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,745 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,866 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.16	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.07	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.03	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.4	68.6	62.5	71.2	71.8
Medium Trucks:	65.0	64.3	58.0	56.4	64.9	65.1
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.1	72.2	69.2	64.4	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	436	939
CNEL:	101	217	469	1,009

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: I-5 NB Off-Ramp to Nightmist

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,445	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,832	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.43	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.81	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.77	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.6	71.3	71.9
Medium Trucks:	65.1	64.4	58.1	56.5	65.0	65.2
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	159	342	738	1,589
CNEL:	171	368	792	1,707

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Towngate to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,972 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,968 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	855
CNEL:	92	198	427	919

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Waterworks to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,409 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,591 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	363	782
CNEL:	84	181	390	840

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Irvine Boulevard to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,121 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,495 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	60.9	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.0	60.2	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	241	519
CNEL:	56	120	259	558

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	153	331	712	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon Avenue
Road Segment: Alton Parkway to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,835 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,626 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.78	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.45	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.41	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	371	800
CNEL:	86	185	399	859

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sand Canyon/Shady Canyon
Road Segment: Quail Hill Parkway to I-405 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,794 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,881 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.33	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.90	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.86	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	329	709
CNEL:	76	164	354	762

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Scientific Way
Road Segment: Irvine Center Drive to Wald

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,616 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	133 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-9.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-26.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-30.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.4	51.4	49.6	43.6	52.2	52.8
Medium Trucks:	46.7	46.0	39.6	38.1	46.5	46.8
Heavy Trucks:	48.5	47.9	38.9	40.1	48.5	48.6
Vehicle Noise:	54.7	53.8	50.4	46.0	54.5	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	27	58
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Shady Canyon Drive
Job Number: 15937
Road Segment: Culver Drive/Bonita Canyon Drive to Cloverfield

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,410 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	694 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.00	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.23	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.19	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	68.5	67.6	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	291
CNEL:	31	67	145	312

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Shady Canyon Drive
Road Segment: Bommer Canyon Road to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,350 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	606 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.58	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.82	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.78	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	67.0	66.1	63.1	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	143	307
CNEL:	33	71	153	330

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Skyhawk
Road Segment: Great Park Boulevard to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,035 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	993 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-20.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.1	56.0	54.2	48.2	56.8	57.4
Medium Trucks:	51.9	51.2	44.9	43.3	51.8	52.0
Heavy Trucks:	55.1	54.5	45.5	46.7	55.1	55.2
Vehicle Noise:	59.9	59.1	55.2	51.3	59.8	60.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	130
CNEL:	14	30	64	138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Southwood
Road Segment: Yale Avenue to Colt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,003 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	248 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.92	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.16	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.11	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.0	57.0	55.2	49.1	57.8	58.4
Medium Trucks:	52.2	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	54.1	53.5	44.5	45.7	54.1	54.2
Vehicle Noise:	60.2	59.4	55.9	51.5	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	40	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Southwood
Road Segment: Challenger to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,867 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	237 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.12	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.31	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.8	56.8	55.0	48.9	57.6	58.2
Medium Trucks:	52.0	51.4	45.0	43.5	51.9	52.2
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	60.0	59.2	55.7	51.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Spectrum Center Drive (Fortune
Road Segment: Pacifica to Quassar Drive (Spectrum)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,702	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	965	vehicles
Vehicle Speed:	30	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	53.7	53.0	46.6	45.1	53.5	53.8
Heavy Trucks:	56.1	55.6	46.5	47.8	56.1	56.2
Vehicle Noise:	61.7	60.8	57.2	53.0	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	169
CNEL:	18	39	84	181

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Spectrum Center Drive (Fortune
Road Segment: Quassar Drive (Spectrum) to Gatewayb

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,210 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,090 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.7	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	62.2	61.3	57.7	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	85	184
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Sunnyhill
Road Segment: Shady Canyon Drive to Turtle Rock Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,827 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	481 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-19.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-23.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.9	52.8	51.1	45.0	53.6	54.3
Medium Trucks:	48.7	48.1	41.7	40.2	48.6	48.9
Heavy Trucks:	52.0	51.4	42.3	43.6	51.9	52.1
Vehicle Noise:	56.8	56.0	52.0	48.1	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Technology Drive
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,461 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,265 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.6	60.9	54.5	53.0	61.5	61.7
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.7	68.7	65.6	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	575
CNEL:	62	133	286	617

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Technology Drive
Job Number: 15937
Road Segment: Old Laguna Canyon Road to I-5/SR-133 Undercrossing

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,421 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,190 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	58.8	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.9	65.9	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	374
CNEL:	40	87	186	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Technology Drive
Road Segment: I-5/SR-133 to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,458 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	945 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.0	61.2	55.1	63.8	64.4
Medium Trucks:	57.8	57.1	50.7	49.2	57.7	57.9
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.9	64.9	61.8	57.1	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	321
CNEL:	34	74	160	344

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Technology Drive
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,747 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	227 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-8.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-25.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-29.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.8	56.8	55.0	48.9	57.6	58.2
Medium Trucks:	51.6	50.9	44.5	43.0	51.5	51.7
Heavy Trucks:	52.4	51.8	42.8	44.0	52.4	52.5
Vehicle Noise:	59.7	58.7	55.6	50.9	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	27	58	124
CNEL:	13	29	62	133

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Toledo Way
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,101 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	668 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.7	61.0	54.9	63.5	64.1
Medium Trucks:	57.4	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	57.8	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	65.5	64.6	61.5	56.7	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	304
CNEL:	33	70	151	326

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Toledo Way
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,577 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	543 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	56.5	55.8	49.4	47.9	56.3	56.6
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	64.6	63.7	60.6	55.8	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	123	264
CNEL:	28	61	132	284

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Toledo Way
Road Segment: Alton Parkway to Parker

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,118 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	505 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.5	59.7	53.7	62.3	62.9
Medium Trucks:	56.1	55.5	49.1	47.6	56.0	56.3
Heavy Trucks:	56.6	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	64.3	63.4	60.3	55.5	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	252
CNEL:	27	58	126	271

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: Keystone to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,020 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,157 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.7	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	367
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: Jeffrey Road to Keystone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,755 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,135 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.6	65.2
Medium Trucks:	58.6	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.6	65.7	62.6	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	363
CNEL:	39	84	181	389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: Culver Drive to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,898 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,064 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.3	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.1	58.5	49.5	50.8	59.1	59.2
Vehicle Noise:	66.4	65.5	62.3	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	161	347
CNEL:	37	80	173	373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: Monroe to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,040 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.0	58.4	49.4	50.7	59.0	59.1
Vehicle Noise:	66.3	65.4	62.2	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: I-5 NB Off-Ramp to Monroe

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,040 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.0	58.4	49.4	50.7	59.0	59.1
Vehicle Noise:	66.3	65.4	62.2	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: Yale Avenue to Remington

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,025	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	910	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.4	57.9	48.8	50.1	58.4	58.6
Vehicle Noise:	65.7	64.8	61.6	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	313
CNEL:	34	72	156	336

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Trabuco Road
Road Segment: Remington to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,025 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.4	57.9	48.8	50.1	58.4	58.6
Vehicle Noise:	65.7	64.8	61.6	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	313
CNEL:	34	72	156	336

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Ridge Drive
Road Segment: Federation Way to Bonita Canyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,210 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,750 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.0
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.5	67.6	64.5	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	225	484
CNEL:	52	112	241	519

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Rock Drive
Road Segment: Ridgeline to Willowleaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,148 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	672 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.68	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.91	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.87	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.4	62.6	56.5	65.2	65.8
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.3	66.3	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	239
CNEL:	26	55	119	256

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Rock Drive
Road Segment: Silkwood to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,856 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	648 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.83	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.07	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.03	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.1
Heavy Trucks:	59.9	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Rock Drive
Road Segment: Canyon Park to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,963 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	574 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.36	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.60	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.55	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.3	58.7	49.7	51.0	59.3	59.4
Vehicle Noise:	66.6	65.7	62.5	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	46	100	215
CNEL:	23	50	107	231

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Rock Drive
Road Segment: Sunnyhill to Southernwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,609 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	298 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.21	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.45	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-28.41	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.7	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	56.5	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	63.7	62.8	59.7	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	139
CNEL:	15	32	69	149

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Rock Drive
Road Segment: Campus Drive to Hillgate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,089 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	585 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	55.9	46.9	48.2	56.5	56.6
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Turtle Rock Drive
Road Segment: Paseo Segovia to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,044 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	334 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.72	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-23.96	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-27.91	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.2	64.2	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	185
CNEL:	20	43	92	198

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Golden Glow to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,438	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,254	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.4	71.5	68.4	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	872
CNEL:	94	202	435	937

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Ridgeline to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,362	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,072	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.69	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.55	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-17.50	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.9	63.3	56.9	55.3	63.8	64.0
Heavy Trucks:	64.3	63.8	54.7	56.0	64.3	64.4
Vehicle Noise:	72.1	71.1	68.1	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	215	463	997
CNEL:	107	231	497	1,072

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Culver Drive to Golden Glow
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,353 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,164 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.1	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.5	63.9	54.9	56.2	64.5	64.6
Vehicle Noise:	72.2	71.3	68.3	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	856
CNEL:	92	198	427	920

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Yale Avenue to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,343	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,916	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.9	71.0	67.9	63.1	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	811
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,745 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,516 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.4	63.8	54.8	56.1	64.4	64.5
Vehicle Noise:	72.1	71.2	68.2	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	525	1,132
CNEL:	122	262	564	1,216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Mesa to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,065 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,470 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.00	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.24	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.20	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.3	71.2	69.4	63.4	72.0	72.6
Medium Trucks:	65.8	65.2	58.8	57.2	65.7	65.9
Heavy Trucks:	66.2	65.6	56.6	57.9	66.2	66.3
Vehicle Noise:	73.9	73.0	70.0	65.2	73.8	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	495	1,067
CNEL:	115	247	532	1,147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,129 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,476 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.00	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.24	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.19	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.3	71.2	69.4	63.4	72.0	72.6
Medium Trucks:	65.8	65.2	58.8	57.3	65.7	65.9
Heavy Trucks:	66.2	65.7	56.6	57.9	66.2	66.3
Vehicle Noise:	74.0	73.0	70.0	65.2	73.8	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	496	1,068
CNEL:	115	247	533	1,148

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: California Avenue to Mesa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,950	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,378	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.88	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.36	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.32	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.1	69.3	63.3	71.9	72.5
Medium Trucks:	65.7	65.0	58.7	57.1	65.6	65.8
Heavy Trucks:	66.1	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	73.8	72.9	69.9	65.1	73.6	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	487	1,048
CNEL:	113	243	523	1,126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,789	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,788	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.19	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	821
CNEL:	88	190	409	882

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,527 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,528 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.57	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-17.80	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-21.76	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	55.0	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	264	569
CNEL:	61	132	284	611

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,273 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,580 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.5	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.7	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	362	779
CNEL:	84	180	389	837

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: San Joaquin to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,239 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,247 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.13	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.09	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.0	60.3	53.9	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.1	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	330	711
CNEL:	76	165	354	764

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: University Drive
Road Segment: Harvard Avenue to San Joaquin
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,126	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,238	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.0	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.1	60.3	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	329	709
CNEL:	76	164	353	761

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Valley Oak Drive
Road Segment: Hawkcreek to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,681 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,129 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.8	66.9	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	431
CNEL:	46	100	215	463

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Valley Oak Drive
Road Segment: Irvine Center Drive to Oak Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,844 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	647 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.30	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.54	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.49	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.8	56.7	65.4	66.0
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	67.3	66.4	63.3	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	321
CNEL:	34	74	160	345

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Valley Oak Drive
Road Segment: Barranca Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,042 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	663 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	57.3	56.7	50.3	48.8	57.2	57.4
Heavy Trucks:	57.7	57.2	48.1	49.4	57.7	57.9
Vehicle Noise:	65.5	64.5	61.5	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Valley Oak Drive
Road Segment: Alton Parkway to Hawkcreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,753 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	557 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.95	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.2	54.1	62.7	63.4
Medium Trucks:	56.6	55.9	49.5	48.0	56.5	56.7
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	64.7	63.8	60.7	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	269
CNEL:	29	62	134	289

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Marriott to Morse Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,180	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,655	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	639
CNEL:	69	148	318	686

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Michelson Drive to Quartz

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,568 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,522 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.1	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	618
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,817 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,377 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.9	69.0	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	276	594
CNEL:	64	137	296	637

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,462 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,926 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.71	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.53	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	84.25	-18.48	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	69.5	68.6	65.4	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	672
CNEL:	72	155	334	720

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Main Street to Anchor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,652 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,281 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.4	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	69.7	68.8	65.6	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	268	578
CNEL:	62	134	288	620

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Anchor to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,101 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,236 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	69.6	68.7	65.5	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	265	570
CNEL:	61	132	284	612

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Morse to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,235 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,247 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	123	265	572
CNEL:	61	132	285	614

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Martin to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,409 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,931 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.9	60.2	53.8	52.3	60.8	61.0
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.0	68.0	64.9	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	240	517
CNEL:	55	119	257	555

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Campus Drive to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,065 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,903 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.84	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	68.9	68.0	64.8	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	238	512
CNEL:	55	118	255	549

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Von Karman Avenue
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,141 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,909 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.8	60.2	53.8	52.3	60.7	60.9
Heavy Trucks:	61.7	61.1	52.0	53.3	61.7	61.8
Vehicle Noise:	68.9	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	111	238	513
CNEL:	55	119	255	550

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Jeffrey Road to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,658 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,612 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.3	69.4	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	632
CNEL:	68	146	315	678

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Myford Road to Jamboree Road SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,679 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,789 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	491
CNEL:	53	114	245	527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: The Mall Street to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,607 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,618 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.9	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.2	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	459
CNEL:	49	106	229	493

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Harvard Avenue to The Mall Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,566 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,614 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.9	60.4	51.3	52.6	60.9	61.0
Vehicle Noise:	68.2	67.3	64.1	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	459
CNEL:	49	106	228	492

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Franciscan Street to Ravenwood Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,104 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,494 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.8	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	202	436
CNEL:	47	101	217	467

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Ravenwood Street to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,267 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,507 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.6	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	67.9	67.0	63.8	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	203	438
CNEL:	47	101	218	470

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Culver Drive to Franciscan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,122 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,495 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.4
Medium Trucks:	59.8	59.1	52.7	51.2	59.7	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	202	436
CNEL:	47	101	217	468

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Peters Canyon Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,611 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,948 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.25	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.9
Medium Trucks:	59.3	58.6	52.2	50.7	59.1	59.4
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.3	66.4	63.3	58.6	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	542
CNEL:	58	125	270	582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Walnut Avenue
Job Number: 15937
Road Segment: Jamboree Road NB Off-Ramp to Peters Canyon Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,091 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,905 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.3	62.6	56.5	65.1	65.8
Medium Trucks:	59.2	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.2	66.3	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	248	534
CNEL:	57	123	266	573

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Yale Avenue to Kazan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,893 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,146 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.55	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.5	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	66.7	65.8	62.6	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	169	365
CNEL:	39	84	182	392

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Walnut Avenue
Road Segment: Wisteria to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,036 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,158 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.7	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	368
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Project Name: Irvine GP
Road Name: Warner Avenue
Job Number: 15937
Road Segment: Jamboree Road SB Off-ramp to Construction North

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,474 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,349 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.8
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	69.8	68.9	65.8	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	589
CNEL:	63	136	293	632

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Warner Avenue
Road Segment: Construction North to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,399 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,600 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	60.1	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.1	67.2	64.1	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	98	212	456
CNEL:	49	105	227	489

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Warner Avenue
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,312	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,098	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.5
Heavy Trucks:	59.3	58.7	49.6	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	165	355
CNEL:	38	82	177	381

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Warner Avenue
Road Segment: Santa Ynez to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,265 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	847 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.1	57.6	48.5	49.8	58.1	58.2
Vehicle Noise:	65.4	64.5	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	298
CNEL:	32	69	149	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Warner Avenue
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,123 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	753 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	57.6	57.0	48.0	49.3	57.6	57.7
Vehicle Noise:	64.9	64.0	60.8	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	59	128	276
CNEL:	30	64	137	296

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Alton Parkway to Blue Lake North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,388 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	775 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	53	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Eagle Run to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,045 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	746 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.5	54.9	48.5	46.9	55.4	55.6
Heavy Trucks:	56.8	56.3	47.2	48.5	56.8	57.0
Vehicle Noise:	63.6	62.7	59.4	54.8	63.4	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	112	242

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Thunder Run to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,605 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	56.6	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	63.3	62.5	59.2	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	23	50	109	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Main Street to Timber Run

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,350	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	606	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.6	57.8	51.8	60.4	61.0
Medium Trucks:	54.6	54.0	47.6	46.0	54.5	54.7
Heavy Trucks:	55.9	55.4	46.3	47.6	55.9	56.1
Vehicle Noise:	62.7	61.8	58.5	53.9	62.5	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	42	91	197
CNEL:	21	45	98	211

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Yale Avenue to Shorebird

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,121 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	505 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.8	57.0	51.0	59.6	60.2
Medium Trucks:	53.8	53.2	46.8	45.3	53.7	53.9
Heavy Trucks:	55.1	54.6	45.5	46.8	55.1	55.3
Vehicle Noise:	61.9	61.0	57.7	53.1	61.7	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	38	81	174
CNEL:	19	40	87	187

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Warner Avenue to Stonecreek South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,494 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	536 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	54.1	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	58.0	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,497 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	536 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	54.1	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	58.0	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Stonecreek North to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	488 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	53.7	53.0	46.6	45.1	53.6	53.8
Heavy Trucks:	55.0	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	61.7	60.8	57.5	53.0	61.5	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: West Yale Loop
Road Segment: Birdsong to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,221 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	513 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.9	57.1	51.0	59.7	60.3
Medium Trucks:	53.9	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	55.2	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	61.9	61.0	57.8	53.2	61.7	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	176
CNEL:	19	41	88	189

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Westwood
Road Segment: Yorktown to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,136 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	506 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.82	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-21.05	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-25.01	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.1	58.3	52.2	60.9	61.5
Medium Trucks:	55.3	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	63.3	62.5	59.0	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	131
CNEL:	14	30	65	140

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Westwood
Road Segment: Bryan Avenue to Leaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	316 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.86	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.10	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.06	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.1	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	53.3	52.6	46.3	44.7	53.2	53.4
Heavy Trucks:	55.1	54.6	45.5	46.8	55.1	55.3
Vehicle Noise:	61.3	60.4	57.0	52.6	61.1	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	45	96
CNEL:	10	22	48	103

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Deerfield Avenue to Winvale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,521 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	868 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.80	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.76	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.8	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Hicks Canyon Drive to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,885 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	650 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.82	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.06	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.01	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	234
CNEL:	25	54	116	251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Walnut Avenue to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,190 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.19	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.43	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-22.39	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.4	62.9	53.8	55.1	63.4	63.5
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	431
CNEL:	46	100	215	462

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,270 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,177 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.8
Heavy Trucks:	59.6	59.0	49.9	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,084 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,162 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.7	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.8	65.8	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	368
CNEL:	40	85	183	395

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: West Yale Loop to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,606 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	875 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	57.4	56.8	50.4	48.9	57.3	57.6
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.5	64.6	61.5	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	142	305
CNEL:	33	70	152	327

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Winvale Avenue to Karen Ann Lane

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,512 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	867 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	33	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Karen Ann Lane to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,512 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	867 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	33	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Trabuco Road to Southwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,224 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	844 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.3	56.6	50.2	48.7	57.2	57.4
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	65.4	64.5	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Southwood to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,061 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	830 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.1	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	65.3	64.4	61.2	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	137	294
CNEL:	32	68	147	316

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Northwood to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,496 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	783 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.1	60.4	54.3	62.9	63.5
Medium Trucks:	57.0	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	57.8	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	65.0	64.1	61.0	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	283
CNEL:	30	65	141	304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,368 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	773 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.1	60.3	54.3	62.9	63.5
Medium Trucks:	56.9	56.2	49.9	48.3	56.8	57.0
Heavy Trucks:	57.7	57.2	48.1	49.4	57.7	57.9
Vehicle Noise:	65.0	64.1	60.9	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	130	281
CNEL:	30	65	140	301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: Irvine Boulevard to Park Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,567 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	624 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.2	59.4	53.3	62.0	62.6
Medium Trucks:	56.0	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.1	63.1	60.0	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	244
CNEL:	26	56	121	261

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Avenue
Road Segment: University Drive to Royce

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,588 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	296 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.24	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-24.48	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-28.43	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.9	58.1	52.0	60.7	61.3
Medium Trucks:	54.7	54.0	47.7	46.1	54.6	54.8
Heavy Trucks:	55.5	54.9	45.9	47.2	55.5	55.6
Vehicle Noise:	62.8	61.9	58.7	54.0	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	34	74	160
CNEL:	17	37	80	172

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Current General Plan
Road Name: Yale Court
Road Segment: Arborwood to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,351 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	524 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.21	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-19.44	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-23.40	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.1	54.3	48.3	56.9	57.5
Medium Trucks:	52.0	51.3	45.0	43.4	51.9	52.1
Heavy Trucks:	55.2	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	60.0	59.2	55.3	51.4	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	84

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ada
Road Segment: Barranca Parway to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,114 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,907 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.36	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-15.87	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-19.83	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.9
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	70.5	69.6	66.3	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	395
CNEL:	42	91	196	423

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ada
Road Segment: Alton Parkway to Barranca PArkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,726 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,617 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	61.0	60.3	53.9	52.4	60.9	61.1
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.0	68.1	64.8	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	522
CNEL:	56	120	259	559

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Enterprise to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,472 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,721 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.37	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.33	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.2	71.1	69.3	63.3	71.9	72.5
Medium Trucks:	65.7	65.1	58.7	57.2	65.6	65.8
Heavy Trucks:	66.2	65.6	56.5	57.8	66.1	66.3
Vehicle Noise:	73.9	72.9	69.9	65.1	73.7	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	148	318	685	1,475
CNEL:	159	342	736	1,585

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: I-5 NB Off-Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	86,184 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,110 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.11	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.13	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.08	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.8	70.0	63.9	72.6	73.2
Medium Trucks:	66.4	65.7	59.4	57.8	66.3	66.5
Heavy Trucks:	66.8	66.2	57.2	58.4	66.8	66.9
Vehicle Noise:	74.5	73.6	70.6	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	155	335	721	1,554
CNEL:	167	360	775	1,669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,626 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,692 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.5	63.8	63.9
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	769
CNEL:	83	178	383	826

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Gateway Boulevard to Enterprise

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,611 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,093 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	63.6	62.9	56.5	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	228	492	1,060
CNEL:	114	245	529	1,139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Jeffrey Road to Royal Oak

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,386 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,177 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	667
CNEL:	72	154	333	717

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Daimler Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,087 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	299	645
CNEL:	69	149	322	693

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,096 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	299	645
CNEL:	69	149	322	693

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,022 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,064 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	644
CNEL:	69	149	321	692

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,329 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,317 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.94	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.29	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.25	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.2	63.6	57.2	55.6	64.1	64.3
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.7
Vehicle Noise:	72.4	71.4	68.4	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	240	517	1,114
CNEL:	120	258	556	1,197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Creek Road to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,792	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,045	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.7
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	640
CNEL:	69	148	319	688

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Red Hill Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,224 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,998 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.5	62.0	52.9	54.2	62.5	62.6
Vehicle Noise:	70.3	69.3	66.3	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	292	630
CNEL:	68	146	314	677

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,527 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,941 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	618
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Telemetry to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,656 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,952 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.50	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.1	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	288	620
CNEL:	67	144	309	666

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Irvine Boulevard to Commercentre

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,812 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,120 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.53	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.71	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.66	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	191	411	884
CNEL:	95	205	441	950

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Jenner to Telemetry

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,298	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,922	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	614
CNEL:	66	142	306	660

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Irvine Center Drive to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,786 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,447 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.23	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.8	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.0	70.0	67.0	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	204	439	945
CNEL:	102	219	471	1,016

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Sand Canyon Avenue to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,925 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,046 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.43	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.81	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.77	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.6	68.9	62.8	71.4	72.0
Medium Trucks:	65.3	64.6	58.2	56.7	65.1	65.4
Heavy Trucks:	65.7	65.1	56.0	57.3	65.6	65.8
Vehicle Noise:	73.4	72.5	69.4	64.6	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	211	454	978
CNEL:	105	226	488	1,051

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Laguna Canyon Road to Jenner

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,824 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,883 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.0	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	130	281	606
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Technology Drive East to Barranca Pkwy/Muirlands Blvd
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,377 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,414 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.8	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	436	939
CNEL:	101	217	468	1,009

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Royal Oak to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,871 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,804 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.08	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.9	68.5
Medium Trucks:	61.7	61.0	54.6	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.8	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	589
CNEL:	63	136	294	632

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,569 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,779 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	583
CNEL:	63	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Barranca Pkwy/Muirlands Blvd to Jeronimo Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,021 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,219 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	419	903
CNEL:	97	209	450	970

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Ada to Technology Drive East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,707 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,028 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.40	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	402	867
CNEL:	93	201	432	932

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,273 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,672 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	560
CNEL:	60	130	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Jeronimo Road to Hughes

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,649 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,529 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	769
CNEL:	83	178	383	826

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Hughes to Morgan
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,451 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.75	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.71	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	753
CNEL:	81	174	376	809

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Morgan to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,331 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,090 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.7	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.8	60.0	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	314	677
CNEL:	73	157	338	727

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: San Marino to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,956 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,141 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.90	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	60.8	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	688
CNEL:	74	159	343	739

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,156	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,075	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.76	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	60.0	53.6	52.1	60.5	60.7
Heavy Trucks:	61.0	60.5	51.4	52.7	61.0	61.2
Vehicle Noise:	68.8	67.8	64.8	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	313	674
CNEL:	72	156	336	724

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Hospital to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,499 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,104 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.82	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.42	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.37	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.1	63.5	54.4	55.7	64.0	64.2
Vehicle Noise:	71.8	70.9	67.8	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	165	355	764
CNEL:	82	177	381	821

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,321 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,006 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.62	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.62	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.58	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.4	62.8	56.4	54.9	63.3	63.6
Heavy Trucks:	63.9	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	71.6	70.7	67.6	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	741
CNEL:	80	171	369	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Murphy Avenue to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,016 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,981 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.63	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.8	53.4	51.9	60.3	60.5
Heavy Trucks:	60.8	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.6	67.6	64.6	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	141	303	653
CNEL:	70	151	326	702

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Foster to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,305 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,923 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	641
CNEL:	69	148	319	688

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Fairbanks to Foster

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,341 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,843 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	68.2	67.3	64.3	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	623
CNEL:	67	144	311	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Toledo Way to Bertea

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,840 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	613
CNEL:	66	142	306	659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Pacifica to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,324 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,924 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.43	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.80	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.76	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.3	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.4	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	334	720
CNEL:	77	167	359	774

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Bertea to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,315 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,758 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Meridian to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,018	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,734	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	59.9	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	60.3	59.7	50.6	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.0	59.2	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	598
CNEL:	64	138	298	642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Paseo Westpark to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,047 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,736 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	59.9	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.0	59.2	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	598
CNEL:	64	139	298	643

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Alton Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,516 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,528 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.57	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.3	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.4	66.5	63.5	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	274	590

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Astor
Road Segment: Lynx to Fairbanks
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,799 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,633 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.94	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-15.30	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-19.25	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.3	61.5	55.4	64.1	64.7
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	58.9
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	66.8	66.0	62.3	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	225
CNEL:	24	52	111	239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Astor
Road Segment: Cadence to Lynx
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,995 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,237 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.73	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-16.50	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-20.46	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	57.6	57.0	50.6	49.0	57.5	57.7
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	65.6	64.8	61.1	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	87	187
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: I-5 NB Off-Ramp to Rockfield Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	98,304	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	8,110	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.68	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-10.56	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-14.51	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.8	73.7	71.9	65.9	74.5	75.1
Medium Trucks:	68.3	67.7	61.3	59.8	68.2	68.5
Heavy Trucks:	68.8	68.2	59.1	60.4	68.7	68.9
Vehicle Noise:	76.5	75.6	72.5	67.7	76.3	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	262	564	1,216	2,619
CNEL:	281	606	1,306	2,814

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Muirlands Boulevard to Jeronimo Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,986 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,196 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	65.0	64.4	55.4	56.7	65.0	65.1
Vehicle Noise:	72.7	71.8	68.8	64.0	72.6	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	124	268	577	1,243
CNEL:	134	288	620	1,335

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Rockfield Boulevard to Muirlands Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	67,539	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,572	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.05	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.19	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.14	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.1	70.3	64.3	72.9	73.5
Medium Trucks:	66.7	66.0	59.7	58.1	66.6	66.8
Heavy Trucks:	67.1	66.5	57.5	58.8	67.1	67.2
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	204	439	947	2,039
CNEL:	219	472	1,017	2,191

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Jeronimo Road to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,196 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,224 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.1	63.5	54.5	55.8	64.1	64.2
Vehicle Noise:	71.8	70.9	67.9	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	502	1,082
CNEL:	116	251	540	1,163

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Toledo Way to Cromwell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,627 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,847 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.7	63.1	54.1	55.4	63.7	63.8
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	219	472	1,017
CNEL:	109	235	507	1,093

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Cromwell to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,084 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,719 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	214	462	994
CNEL:	107	230	496	1,068

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Research Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,944 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,388 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.2	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	69.4	68.5	65.4	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	344	740
CNEL:	80	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Irvine Center Drive to Research Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,673 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	798 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-20.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-24.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.5	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	64.6	63.7	60.7	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bake Parkway
Road Segment: Lake Forest Drive to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,866 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	566 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-22.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-26.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.4	58.6	52.5	61.2	61.8
Medium Trucks:	55.0	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	63.1	62.2	59.2	54.4	62.9	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	284
CNEL:	30	66	141	305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Banting
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,569 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	459 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-21.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-25.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.8	56.8	55.0	48.9	57.6	58.2
Medium Trucks:	52.0	51.4	45.0	43.5	51.9	52.1
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	60.0	59.2	55.7	51.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	132
CNEL:	14	30	65	141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Pacifica to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,132 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,981 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.8	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.0	72.1	69.2	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	208	448	965
CNEL:	104	224	482	1,039

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,152	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,653	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.3	63.7	57.3	55.8	64.2	64.5
Heavy Trucks:	64.4	63.8	54.7	56.0	64.4	64.5
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	415	893
CNEL:	96	207	446	961

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: I-5 HOV Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,565 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,769 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.3	70.9	71.5
Medium Trucks:	64.5	63.9	57.5	55.9	64.4	64.6
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.7	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	919
CNEL:	99	213	459	989

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,332 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,585 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.3
Heavy Trucks:	64.3	63.7	54.6	55.9	64.2	64.4
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	878
CNEL:	94	203	438	944

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Irvine Center Drive to I-5 HOV Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,796 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,541 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.2	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	72.3	71.4	68.5	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	934

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,434 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,346 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.4	67.6	61.5	70.2	70.8
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	63.8	63.3	54.2	55.5	63.8	63.9
Vehicle Noise:	72.0	71.1	68.1	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	823
CNEL:	89	191	411	885

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,062 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,315 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.9	71.0	68.1	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	816
CNEL:	88	189	407	877

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,146 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,240 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.6	63.0	54.0	55.3	63.6	63.7
Vehicle Noise:	71.8	70.9	67.9	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	370	798
CNEL:	86	185	398	858

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Ada to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,638 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,280 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.5	61.4	70.0	70.6
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.9	70.9	68.0	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	375	807
CNEL:	87	187	403	869

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Lake Road to Creek Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,488 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,103 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.4
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	165	355	765
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Red Hill Avenue to Armstrong Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,793	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,025	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.23	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.01	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.97	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.9	71.8	70.1	64.0	72.6	73.2
Medium Trucks:	66.3	65.6	59.3	57.7	66.2	66.4
Heavy Trucks:	66.3	65.7	56.7	57.9	66.3	66.4
Vehicle Noise:	74.5	73.5	70.6	65.7	74.3	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	193	415	894	1,927
CNEL:	207	447	962	2,073

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Discovery/Herchel to Banting
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,618 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,031 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.1	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.4	70.4	67.5	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	747
CNEL:	80	173	373	804

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Lyon to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,159 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,993 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.5	53.5	54.8	63.1	63.2
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	738
CNEL:	79	171	369	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Creek Road to Lyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,764 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,961 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.0	62.4	56.0	54.4	62.9	63.1
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	71.2	70.3	67.3	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	730
CNEL:	79	169	365	785

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,548 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,510 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.63	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.61	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.56	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.9	68.1	62.0	70.7	71.3
Medium Trucks:	64.3	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	64.3	63.8	54.7	56.0	64.3	64.5
Vehicle Noise:	72.5	71.6	68.6	63.7	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	529	1,139
CNEL:	123	264	569	1,225

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Sand Canyon Avenue to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,751 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,794 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.6	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	688
CNEL:	74	160	344	740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Armstrong Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,468 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,256 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.30	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.93	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.89	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.2	71.2	68.3	63.4	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	503	1,083
CNEL:	117	251	541	1,165

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,139 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,661 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.86	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.3	61.8	52.7	54.0	62.3	62.4
Vehicle Noise:	70.5	69.6	66.6	61.7	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	141	303	654
CNEL:	70	152	326	703

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Jamboree Road to Construction Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,282 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,663 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.8
Vehicle Noise:	70.9	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	434	934
CNEL:	100	216	466	1,005

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Santa Rosa to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,019 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,559 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.94	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.6
Heavy Trucks:	62.6	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	422	909
CNEL:	98	211	454	978

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: FedEx to Discovery/Herchel

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,005 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,568 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.2	69.3	66.4	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	292	629
CNEL:	68	146	314	677

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Jeffrey Road to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,482 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,525 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	617
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Laguna Canyon Road to FedEx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,440 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,521 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.3	61.8	62.0
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	617
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Pullman Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,135	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.14	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-15.10	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-19.05	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	69.0	62.9	71.5	72.2
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.2	64.6	55.6	56.9	65.2	65.3
Vehicle Noise:	73.4	72.5	69.5	64.6	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	163	351	757	1,631
CNEL:	175	378	814	1,755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Construction Circle to Fire Station
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,462 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,348 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.3	69.4	66.5	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	859
CNEL:	92	199	429	924

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Fire Station to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,462 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,348 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.3	69.4	66.5	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	859
CNEL:	92	199	429	924

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Paseo Westpark to Santa Rosa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,055 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,315 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.82	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	70.3	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	395	851
CNEL:	92	197	425	915

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Barranca Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,884 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,135 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.9	69.0	66.1	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	374	806
CNEL:	87	187	403	867

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bay Tree
Road Segment: Trabuco Road to Roosevelt
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	221 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.6	53.6	51.8	45.7	54.4	55.0
Medium Trucks:	48.9	48.2	41.8	40.3	48.7	49.0
Heavy Trucks:	50.7	50.1	41.1	42.3	50.7	50.8
Vehicle Noise:	56.9	56.0	52.5	48.2	56.7	57.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	38	81
CNEL:	9	19	40	86

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Beacon
Road Segment: Ridge Valley to Benchmark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,586 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	296 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.48	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-22.72	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-26.67	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.9	55.8	54.1	48.0	56.6	57.2
Medium Trucks:	51.4	50.7	44.4	42.8	51.3	51.5
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	59.4	58.5	54.9	50.7	59.2	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	72
CNEL:	8	17	36	77

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Benchmark (LN Street)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,728 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	143 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.65	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.84	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.7	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	48.2	47.6	41.2	39.7	48.1	48.4
Heavy Trucks:	50.7	50.1	41.1	42.3	50.7	50.8
Vehicle Noise:	56.2	55.4	51.7	47.6	56.1	56.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	10	21	44
CNEL:	5	10	22	47

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bison Avenue
Road Segment: SR-73 NB Off-Ramp to California Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,685 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,119 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.3	60.6	54.2	52.7	61.2	61.4
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	550
CNEL:	59	127	274	590

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bonita Canyon Drive
Road Segment: MacArthur Boulevard to SR-73

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,850 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,545 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.65	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.59	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-19.55	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	729
CNEL:	78	169	364	783

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bonita Canyon Drive
Road Segment: Turtle Ridge to Shady Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,798 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,716 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.06	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.30	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.26	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	67.0
Medium Trucks:	60.2	59.5	53.1	51.6	60.1	60.3
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	561
CNEL:	60	130	280	602

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bonita Canyon Drive
Road Segment: Newport Coast Drive to Turtle Ridge
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,217 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,585 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.41	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.65	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.60	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.8	59.2	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.7	50.6	51.9	60.2	60.4
Vehicle Noise:	68.0	67.0	64.0	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	532
CNEL:	57	123	265	571

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bonita Canyon Drive
Road Segment: SR-73 NB Off-Ramp to Newport Coast Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,311 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,511 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.62	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.86	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.81	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	111	239	515
CNEL:	55	119	257	553

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bosque
Road Segment: Cadence to Great Park Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,852 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,060 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.06	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-17.17	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-21.13	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	57.0	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	59.4	58.8	49.8	51.1	59.4	59.5
Vehicle Noise:	65.0	64.1	60.5	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	78	168
CNEL:	18	39	83	179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bosque
Road Segment: Irvine Boulevard to Benchmark (LN Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,905 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	735 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.53	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-18.77	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-22.72	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.8	58.0	52.0	60.6	61.2
Medium Trucks:	55.4	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	57.8	57.2	48.2	49.5	57.8	57.9
Vehicle Noise:	63.4	62.5	58.9	54.7	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	132
CNEL:	14	30	65	141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bosque
Road Segment: Benchmark to Cadence
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,135 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	671 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.92	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.16	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.12	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	55.0	54.3	47.9	46.4	54.9	55.1
Heavy Trucks:	57.4	56.9	47.8	49.1	57.4	57.5
Vehicle Noise:	63.0	62.1	58.5	54.3	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	27	58	124
CNEL:	13	29	61	132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bosque
Road Segment: Great Park Boulevard to Beacon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,844 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	152 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.37	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.61	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.56	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	53.0	51.2	45.1	53.8	54.4
Medium Trucks:	48.5	47.9	41.5	39.9	48.4	48.6
Heavy Trucks:	51.0	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	56.5	55.7	52.0	47.8	56.4	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	21	46
CNEL:	5	11	23	49

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bosque
Road Segment: Beacon to S 5th Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,609 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	133 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.96	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-26.20	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-30.15	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.4	52.4	50.6	44.5	53.2	53.8
Medium Trucks:	47.9	47.3	40.9	39.4	47.8	48.0
Heavy Trucks:	50.4	49.8	40.8	42.0	50.4	50.5
Vehicle Noise:	55.9	55.1	51.4	47.2	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Jamboree Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,410 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,849 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.5	60.9	51.9	53.2	61.5	61.6
Vehicle Noise:	68.8	67.9	64.7	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	233	502
CNEL:	54	116	250	539

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Market Place to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,846 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	57.9	66.6	67.2
Medium Trucks:	60.6	59.9	53.5	52.0	60.5	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.7	67.7	64.6	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	229	494
CNEL:	53	114	246	530

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Rubicon to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,397 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,765 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	68.6	67.7	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	487
CNEL:	52	113	242	522

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: El Camino Real to Rubicon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,246 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,753 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.0
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.5	67.6	64.5	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	225	485
CNEL:	52	112	241	520

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Eastwood to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,512 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,197 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.6	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	174	376
CNEL:	40	87	187	403

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Westwood to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,258 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,094 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Culver Drive to Westwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,038 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,076 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.4	65.5	62.4	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	350
CNEL:	38	81	174	375

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Bryan Avenue
Road Segment: Yale Avenue to Eastwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,028	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,075	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.4
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.4	65.5	62.4	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	350
CNEL:	38	81	174	375

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Cadence
Road Segment: Pusan to Chinon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,071 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	583 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.78	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.02	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-24.97	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.3	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	58.7	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.4	64.5	61.2	56.7	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	179
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Cadence
Road Segment: Bosque to Pusan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,542 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.12	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-25.31	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	57.0	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.9	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Cadence
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	405 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.37	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.60	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.56	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	55.8	55.1	48.7	47.2	55.6	55.9
Heavy Trucks:	57.1	56.5	47.4	48.7	57.1	57.2
Vehicle Noise:	63.8	62.9	59.6	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	70	150

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Cadence
Road Segment: Chinon to Merit
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,298 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	272 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.09	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-24.33	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-28.29	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.5	53.9	54.2
Heavy Trucks:	55.3	54.8	45.7	47.0	55.3	55.5
Vehicle Noise:	62.1	61.2	57.9	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	50	108
CNEL:	12	25	54	115

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Cadence
Road Segment: Merit to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,698 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.97	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-27.21	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-31.17	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.1	54.3	48.3	56.9	57.5
Medium Trucks:	51.2	50.5	44.1	42.6	51.0	51.3
Heavy Trucks:	52.5	51.9	42.8	44.1	52.4	52.6
Vehicle Noise:	59.2	58.3	55.0	50.5	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	74

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: California Avenue
Road Segment: University Drive to Academy Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,758	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,300	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.0	65.1	61.8	57.3	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	152	327
CNEL:	35	76	163	350

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: California Avenue
Road Segment: Campus Drive to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,868 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	814 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	63.9	63.0	59.8	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	111	240
CNEL:	26	55	119	257

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: California Avenue
Road Segment: Theory to Bison Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	756 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.8	52.7	61.3	62.0
Medium Trucks:	55.6	54.9	48.5	47.0	55.5	55.7
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	63.6	62.7	59.4	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	228
CNEL:	24	53	113	244

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Carlson Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,942 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,388 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.37	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-15.87	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-19.82	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.2	68.5	62.4	71.0	71.6
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	65.3	64.7	55.6	56.9	65.2	65.4
Vehicle Noise:	73.0	72.1	69.0	64.2	72.8	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	766
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: University Drive to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,687 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,697 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.4	62.8	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.3	54.2	55.5	63.8	63.9
Vehicle Noise:	71.6	70.6	67.6	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	769
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Jamboree Road to Carlson Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,504 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,517 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	63.0	53.9	55.2	63.5	63.6
Vehicle Noise:	71.3	70.3	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	735
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Stanford Court to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,642 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,280 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	688
CNEL:	74	159	343	739

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: California Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,572 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,192 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.9	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.0
Vehicle Noise:	70.7	69.7	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	311	670
CNEL:	72	155	334	720

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Berkeley Avenue to Cornell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,468 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,771 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	581
CNEL:	62	135	290	625

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Martin to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,343 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,431 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.7	60.0	53.6	52.1	60.6	60.8
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	504
CNEL:	54	117	251	542

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Culver Drive to Paseo Montoya (Turtle Rock Drive)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,048 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,324 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.4
Heavy Trucks:	60.7	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.5	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	479
CNEL:	51	111	239	515

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Von Karman Avenue to Teller Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,824 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,223 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.5	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	211	454
CNEL:	49	105	227	488

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: MacArthur Boulevard to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,285 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,179 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.8	59.2	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.7	50.6	51.9	60.2	60.4
Vehicle Noise:	68.0	67.0	64.0	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	206	443
CNEL:	48	103	221	476

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Campus Drive
Road Segment: Teller Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,126 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,000 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	59.5	58.9	49.9	51.2	59.5	59.6
Vehicle Noise:	67.2	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	184	397
CNEL:	43	92	198	427

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Carlson Avenue
Road Segment: Michelson Drive to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,092 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.6	66.7	63.7	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	196	421
CNEL:	45	98	210	453

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Chinon
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,470 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	369 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.73	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-20.97	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-24.92	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.6	54.6	52.8	46.8	55.4	56.0
Medium Trucks:	50.5	49.8	43.4	41.9	50.4	50.6
Heavy Trucks:	53.7	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	58.5	57.7	53.8	49.9	58.4	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	29	63
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Creek Road
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,907 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	405 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-20.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-24.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.2	52.1	50.3	44.3	52.9	53.5
Medium Trucks:	48.0	47.3	41.0	39.4	47.9	48.1
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	56.0	55.2	51.3	47.4	55.9	56.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	72
CNEL:	8	16	35	76

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,300 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,057 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.22	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.3	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.5	56.9	65.4	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.8	69.8	64.9	73.5	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	309	665	1,432
CNEL:	154	332	715	1,541

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,960	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,947	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.1	65.4	65.5
Vehicle Noise:	73.6	72.7	69.7	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	655	1,411
CNEL:	152	327	705	1,518

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,969 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,030 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.3	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.7	69.8	64.9	73.5	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	307	662	1,427
CNEL:	154	331	713	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Scottsdale Drive to I-5 SB Off- Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,474 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,907 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.1	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.3	56.8	65.2	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.5	72.6	69.7	64.8	73.3	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	140	302	652	1,404
CNEL:	151	325	701	1,510

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: I-405 NB Off-Ramp to San Leandro

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,487 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,660 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.33	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.2
Heavy Trucks:	65.2	64.6	55.5	56.8	65.1	65.3
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	292	630	1,356
CNEL:	146	314	677	1,459

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: San Leandro to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,021 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,374 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.0	72.1	69.2	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	280	604	1,300
CNEL:	140	301	649	1,399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Harvard Avenue to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,377 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,404 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.2	69.2	64.3	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	281	606	1,306
CNEL:	141	303	652	1,405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Trabuco Road to Farwell Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,213	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,885	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.07	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.17	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.13	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.4	71.3	69.5	63.5	72.1	72.7
Medium Trucks:	65.7	65.1	58.7	57.2	65.6	65.9
Heavy Trucks:	65.8	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	73.9	73.0	70.1	65.2	73.7	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	306	659	1,420
CNEL:	153	329	709	1,527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,504 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,249 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	275	592	1,275
CNEL:	137	296	637	1,372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Main Street to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,818	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,110	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.1	68.4	62.3	70.9	71.5
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.8	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	269	579	1,247
CNEL:	134	289	623	1,342

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Warner Avenue to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,908 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,035 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.2	70.9	71.5
Medium Trucks:	64.5	63.8	57.5	55.9	64.4	64.6
Heavy Trucks:	64.5	64.0	54.9	56.2	64.5	64.6
Vehicle Noise:	72.7	71.8	68.8	63.9	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	265	572	1,232
CNEL:	133	286	615	1,325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Walnut Avenue to Scottsdale Dive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,641 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,930 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.1	64.4	64.5
Vehicle Noise:	72.6	71.7	68.7	63.8	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	562	1,211
CNEL:	130	281	605	1,302

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,548 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,923 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	260	561	1,209
CNEL:	130	280	604	1,301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Shady Canyon Drive to Palo Verde

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,474 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,184 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.5	62.9	53.9	55.2	63.5	63.6
Vehicle Noise:	71.7	70.8	67.8	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	785
CNEL:	84	182	392	844

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Deerfield Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,116 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,640 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.2	71.3	68.4	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,150
CNEL:	124	267	574	1,237

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Sandburg Way to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,200	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,646	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	64.0	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	535	1,152
CNEL:	124	267	575	1,239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,037 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,551 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.0	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.1	71.2	68.3	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	525	1,131
CNEL:	122	262	565	1,217

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Palo Verde to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,255	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,001	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	344	740
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: University Drive to Sandburg Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,878	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,372	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.2	63.6	63.8
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	236	507	1,093
CNEL:	118	253	546	1,176

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Farwell Avenue to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,710 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,854 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.04	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.20	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.16	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.4	71.1	71.7
Medium Trucks:	64.7	64.0	57.7	56.1	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	563	1,212
CNEL:	130	281	605	1,304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Campus Drive to High School

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,825	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,286	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.8	70.9	67.9	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	231	499	1,074
CNEL:	116	249	536	1,156

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: High School to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,094	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,225	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	53.9	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,061
CNEL:	114	246	530	1,142

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Bryan Avenue to Florence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,153	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,065	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.0	69.7	70.3
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.3	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	221	476	1,026
CNEL:	110	238	512	1,104

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Portola Parkway to Settlers

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,169	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,829	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.7	62.1	55.7	54.1	62.6	62.8
Heavy Trucks:	62.8	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	150	324	697
CNEL:	75	162	348	750

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Florence to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,281 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,993 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	469	1,010
CNEL:	109	234	504	1,086

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Irvine Boulevard to Viewpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,782	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,292	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.2	69.3	66.4	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	182	392	845
CNEL:	91	196	422	909

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Viewpark to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,857 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,216 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.6	68.3	68.9
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	61.9	61.4	52.3	53.6	61.9	62.0
Vehicle Noise:	70.1	69.2	66.2	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	383	826
CNEL:	89	191	413	889

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Settlers to Furrow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,930 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	984 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.0	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	68.2	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	214	461
CNEL:	50	107	230	496

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Culver Drive
Road Segment: Meadowood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,384 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,599 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	309	665
CNEL:	72	154	332	715

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Discovery Drive
Road Segment: Irvine Center Drive to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,332 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,100 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.5	57.9	48.9	50.2	58.5	58.6
Vehicle Noise:	65.2	64.4	61.1	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	68	146	314

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Discovery Drive
Road Segment: Waterworks Way to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,636 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	712 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.3	54.7	48.3	46.7	55.2	55.4
Heavy Trucks:	56.6	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	63.4	62.5	59.2	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	23	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: East Yale Loop
Road Segment: Alton Parkway to Witherspoon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,590 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,121 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.3	64.4	61.2	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	68	147	318

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: East Yale Loop
Road Segment: Osborn Street to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,938 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,067 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.0	60.3	54.2	62.8	63.5
Medium Trucks:	57.1	56.4	50.0	48.5	57.0	57.2
Heavy Trucks:	58.4	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	65.1	64.2	60.9	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	133	287
CNEL:	31	66	143	307

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: East Yale Loop
Road Segment: Yale Avenue to Springbrook South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,895 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	981 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.7	56.0	49.7	48.1	56.6	56.8
Heavy Trucks:	58.0	57.4	48.4	49.7	58.0	58.1
Vehicle Noise:	64.8	63.9	60.6	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	126	271
CNEL:	29	63	135	291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: East Yale Loop
Road Segment: Springbrook North to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,574 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	707 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	60.3	58.5	52.4	61.1	61.7
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	56.6	56.0	47.0	48.2	56.6	56.7
Vehicle Noise:	63.3	62.4	59.2	54.6	63.1	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	218
CNEL:	23	50	108	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: East Yale Loop
Road Segment: Woodspring to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,199 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	594 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	54.5	53.9	47.5	46.0	54.4	54.7
Heavy Trucks:	55.9	55.3	46.2	47.5	55.8	56.0
Vehicle Noise:	62.6	61.7	58.4	53.8	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	194
CNEL:	21	45	97	208

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: East Yale Loop
Road Segment: Barranca Parkway to Eastshore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,524 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	538 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.1	55.4	55.5
Vehicle Noise:	62.1	61.2	58.0	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	182
CNEL:	19	42	90	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Eastwood
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	267 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.59	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.83	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.78	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.3	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	52.6	51.9	45.5	44.0	52.5	52.7
Heavy Trucks:	54.4	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	60.6	59.7	56.3	51.9	60.4	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	18	40	86
CNEL:	9	20	43	92

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Eastwood
Road Segment: Columbus to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,011 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	166 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.66	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-25.90	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-29.85	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.3	55.2	53.4	47.4	56.0	56.6
Medium Trucks:	50.5	49.8	43.5	41.9	50.4	50.6
Heavy Trucks:	52.3	51.8	42.7	44.0	52.3	52.5
Vehicle Noise:	58.5	57.6	54.2	49.8	58.3	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	62
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: El Camino Real
Road Segment: Jamboree Road to Alliance (SR-261 Bridge)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,398 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,600 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	66.9	66.0	62.7	58.2	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	376
CNEL:	40	87	187	403

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: El Camino Real North
Road Segment: El Camino Real to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,553 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	541 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.2	61.3	58.0	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	182
CNEL:	20	42	91	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Fairbanks
Road Segment: Alton Parkway to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,614 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,536 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.42	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-16.81	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-20.77	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	69.6	68.7	65.4	60.9	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Fairbanks
Road Segment: Irvine Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	781 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.51	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.75	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.71	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	66.6	65.7	62.5	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	218
CNEL:	23	50	108	233

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Fairchild Road
Road Segment: MacArthur Boulevard to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,081 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	584 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	55.9	46.9	48.2	56.5	56.6
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Gateway Boulevard
Road Segment: Alton Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,010 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-15.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-19.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.8	59.7	58.0	51.9	60.5	61.1
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.8	57.2	48.1	49.4	57.7	57.9
Vehicle Noise:	63.3	62.4	58.8	54.6	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	217
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Gateway Boulevard
Road Segment: Spectrum Center Drive (Fortune Drive) to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,678 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,046 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.4	56.7	50.6	59.2	59.9
Medium Trucks:	54.0	53.3	47.0	45.4	53.9	54.1
Heavy Trucks:	56.5	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	62.0	61.2	57.5	53.3	61.8	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	179
CNEL:	19	41	88	190

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Gateway Boulevard
Road Segment: Irvine Center Drive to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,270 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	517 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-3.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-20.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-24.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.5	55.4	53.6	47.6	56.2	56.8
Medium Trucks:	51.0	50.3	43.9	42.4	50.8	51.1
Heavy Trucks:	53.4	52.8	43.8	45.1	53.4	53.5
Vehicle Noise:	59.0	58.1	54.5	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	112
CNEL:	12	26	55	119

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Great Park Boulevard
Road Segment: Sand Canyon to Ridge Valley

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,507 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,754 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.34	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.90	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.86	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.8	63.7	72.3	72.9
Medium Trucks:	66.2	65.5	59.1	57.6	66.0	66.3
Heavy Trucks:	66.6	66.0	57.0	58.2	66.6	66.7
Vehicle Noise:	74.3	73.4	70.3	65.5	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	522	1,125
CNEL:	121	260	561	1,208

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Great Park Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,162 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,911 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.1	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	284	612
CNEL:	66	142	305	657

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Great Park Boulevard (EB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,824 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	728 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.79	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.03	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-24.98	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	60.0	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	139	300
CNEL:	32	69	150	322

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Great Park Boulevard (WB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,648 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	631 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.41	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.65	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.60	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.5	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	273
CNEL:	29	63	136	293

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: University Drive to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,851 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,885 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.80	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-16.44	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-20.39	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.1	61.0	69.6	70.2
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.5	63.9	54.9	56.1	64.5	64.6
Vehicle Noise:	71.7	70.8	67.7	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	102	221	475
CNEL:	51	110	237	510

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Michelson Drive to Coronado
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,028 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,560 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.2	69.3	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	290	624
CNEL:	67	144	311	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: San Marino to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,121 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,402 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.2	54.8	53.2	61.7	61.9
Heavy Trucks:	62.7	62.1	53.0	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.8	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	598
CNEL:	64	138	298	642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Coronado to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,811 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,377 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.9	69.0	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	276	594
CNEL:	64	137	296	637

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: San Carlo to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,438 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,346 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.7	61.1	54.7	53.1	61.6	61.8
Heavy Trucks:	62.6	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	69.8	68.9	65.7	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	589
CNEL:	63	136	293	631

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Main Street to San Carlo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,916 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,303 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.6	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.7	68.8	65.7	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	581
CNEL:	62	134	290	624

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Alton Parkway to San Leon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	239	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: San Juan to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	239	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: San Leon to San Juan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,663 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.1	60.5	51.4	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,757 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,300 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.3	62.6	56.5	65.1	65.7
Medium Trucks:	59.2	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.2	66.3	63.2	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	184	397
CNEL:	43	92	198	426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Deerfield Avenue to Poplar Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,478 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,277 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.6	59.9	60.0
Vehicle Noise:	67.2	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	182	392
CNEL:	42	91	195	421

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,135 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,414 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	50.9	59.4	59.6
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	195	420
CNEL:	45	97	209	450

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Bridge Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,144 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,414 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	50.9	59.4	59.6
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	195	420
CNEL:	45	97	209	451

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Paseo Westpark to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	418
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Poplar Street to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,653 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,126 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.43	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-18.67	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-22.63	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	68.6	67.7	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	390
CNEL:	42	90	194	418

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: California Avenue to Berkeley Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,232 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,257 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.9	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	416

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Culver Drive to California Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,994 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,237 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	58.9	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.0	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	412

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Berkeley to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,544 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,200 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	376
CNEL:	40	87	187	404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Harvard Avenue
Road Segment: Warner Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,236 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,092 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.2	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Hicks Canyon Drive
Road Segment: Delamesa to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,210 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.25	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	75.75	-25.49	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	81.57	-29.45	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	50.0	49.3	42.9	41.4	49.9	50.1
Heavy Trucks:	51.8	51.2	42.2	43.5	51.8	51.9
Vehicle Noise:	58.0	57.1	53.7	49.3	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Hornet (5th St)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,346 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	276 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.99	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-22.23	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-26.18	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.4	53.3	51.6	45.5	54.1	54.7
Medium Trucks:	49.2	48.5	42.2	40.6	49.1	49.3
Heavy Trucks:	52.4	51.8	42.8	44.1	52.4	52.5
Vehicle Noise:	57.3	56.4	52.5	48.6	57.1	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	52
CNEL:	6	12	26	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Hubble
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,322 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	192 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.58	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.81	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.77	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.8	51.7	50.0	43.9	52.5	53.1
Medium Trucks:	47.6	47.0	40.6	39.1	47.5	47.7
Heavy Trucks:	50.8	50.3	41.2	42.5	50.8	50.9
Vehicle Noise:	55.7	54.8	50.9	47.0	55.5	55.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	41
CNEL:	4	9	20	43

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: SR-133 NB Off- Ramp to Ridge Valley (O Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,249 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,403 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.8	63.1	56.7	55.2	63.7	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	72.0	71.0	68.1	63.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	237	510	1,100
CNEL:	118	255	549	1,183

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: SR-133 SB Off-Ramp to SR-133 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,804 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,366 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.4	70.1	70.7
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	235	507	1,092
CNEL:	117	253	545	1,175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Sand Canyon to SR-133 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,645 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,683 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.84	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.40	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.35	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.2	70.9	71.5
Medium Trucks:	64.5	63.9	57.5	55.9	64.4	64.6
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.7	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	118	253	546	1,176
CNEL:	127	273	587	1,265

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Merit to Alton
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.3	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,001
CNEL:	108	232	500	1,077

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Journey to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,381 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,919 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.83	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.5	53.5	54.8	63.1	63.2
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	214	461	993
CNEL:	107	230	496	1,068

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,010 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,641 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	431	929
CNEL:	100	215	464	999

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Pusan Way to Chinon (B Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,080 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Palo Lado to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,776 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,704 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.6	60.5	69.1	69.7
Medium Trucks:	62.8	62.1	55.7	54.2	62.7	62.9
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	71.0	70.0	67.1	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	203	438	944
CNEL:	102	219	471	1,015

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Culver Drive to Palo Lado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,679 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.7	62.1	55.7	54.2	62.6	62.8
Heavy Trucks:	62.8	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	435	938
CNEL:	101	217	468	1,009

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,599 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	919
CNEL:	99	213	459	989

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Old Myford Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,742 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,619 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.36	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.6	62.0	55.6	54.1	62.5	62.7
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	199	429	924
CNEL:	99	214	461	994

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Bosque (LY Street) to Modjeska

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,088 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,647 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	432	930
CNEL:	100	216	465	1,001

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Jamboree Road to Old Myford Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,090	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,565	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Market Place to SR-261 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,908 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,550 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.5	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	70.7	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	907
CNEL:	98	210	453	976

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Jeffrey Road to Groveland

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,376 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,506 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	193	416	897
CNEL:	96	208	448	965

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Bake Parkway to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,916	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,303	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	394	848
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Independence Way (The Groves)/The Groves to JeffreyRoad
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,006 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,393 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.23	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.6	53.9	62.3	62.4
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	404	870
CNEL:	94	202	434	936

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Chinon (B Street) to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: SR-261 NB Off-Ramp to Central Park

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,240	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,330	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.5	62.0	62.2
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	397	854
CNEL:	92	198	427	919

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Pueblo Norte to Independence Way (The Groves)/ Parkwood
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,469 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,266 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	389	839
CNEL:	90	194	419	902

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Yale Avenue to Pueblo Norte

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,285 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,251 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	54.9	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	388	835
CNEL:	90	194	417	898

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Modjeska to Pusan Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,148 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Central Park Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,480	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,020	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	60.9	51.9	53.2	61.5	61.6
Vehicle Noise:	69.7	68.8	65.8	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	361	777
CNEL:	84	180	388	836

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Parker to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,659 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,869 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	738
CNEL:	79	171	368	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Boulevard
Road Segment: Alton Parkway to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,955 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,481 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.3	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	632
CNEL:	68	146	315	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,889 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,363 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.99	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.25	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.20	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.3	63.6	57.2	55.7	64.2	64.4
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.4	71.5	68.4	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	521	1,122
CNEL:	121	260	560	1,205

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Orange Tree to Valley Oak Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,786 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,107 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,062
CNEL:	114	246	530	1,141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: I-405 SB Off-Ramp to Research

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,340 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,906 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.51	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.73	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.69	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	484	1,042
CNEL:	112	241	520	1,120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Irvine Valley College to Orange Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,817 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,027 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.64	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.60	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.9	63.3	54.3	55.6	63.9	64.0
Vehicle Noise:	71.6	70.7	67.7	62.9	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	487	1,049
CNEL:	113	243	523	1,127

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Fontaine Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,104 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,804 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.3	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.4	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	217	469	1,009
CNEL:	108	234	503	1,084

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Culver Drive to Deerwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,624 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,764 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.3	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,002
CNEL:	108	232	500	1,077

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Deerwood to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,180 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,727 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	70.0
Medium Trucks:	63.2	62.5	56.1	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	215	462	996
CNEL:	107	231	497	1,070

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Yale Avenue to Fontaine Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,578 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,760 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.3	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,002
CNEL:	108	232	500	1,076

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Jeffrey Road to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,489 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,670 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.2	63.5	63.6
Vehicle Noise:	71.2	70.3	67.3	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	212	458	986
CNEL:	106	228	492	1,059

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Alton Parkway to Spectrum

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,406 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,499 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	206	443	955
CNEL:	103	221	476	1,026

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Spectrum to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,458 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.98	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.8	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.0	70.1	67.0	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	204	440	947
CNEL:	102	219	472	1,018

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Hearthstone to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,524 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,261 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	454	979

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Charter to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,843 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,205 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.65	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.59	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	97	208	449	967

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Jamboree Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,809 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	396	853
CNEL:	92	197	425	916

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Pacifica to Entertainment (Enterprise/Fortune)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,722 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,030 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	867
CNEL:	93	201	433	932

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,034 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.78	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	933

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Harvard Avenue to Hearthstone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,946 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,801 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.0
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.1	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	823
CNEL:	88	191	410	884

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Research to Hubble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,767 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,456 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	754
CNEL:	81	175	376	810

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Barranca Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,213 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,658 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.84	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	369	795
CNEL:	85	184	396	854

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,382 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,424 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	80	173	373	803

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Discovery to Charter

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,850	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,710	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	173	374	805
CNEL:	87	186	402	865

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,974	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,308	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.22	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.3	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	156	336	723
CNEL:	78	167	361	777

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Muller to Tesla
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,678 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,201 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	325	701
CNEL:	75	162	350	753

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Sand Canyon Avenue to Odyssey

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,285 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,251 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	330	712
CNEL:	76	165	355	764

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Tesla to Scientific Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,358 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,010 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	306	660
CNEL:	71	153	329	709

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Scientific Way to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,917 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.42	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.82	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.78	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	639
CNEL:	69	148	319	687

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Gateway Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,879 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,970 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.54	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.70	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.66	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	68.5	67.6	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	651
CNEL:	70	151	325	699

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Laguna Canyon Road to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,024 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,982 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.63	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.8	53.4	51.9	60.3	60.5
Heavy Trucks:	60.8	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.6	67.6	64.6	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	141	303	654
CNEL:	70	151	326	702

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive
Road Segment: Odyssey to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,977 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,978 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.4	59.8	53.4	51.8	60.3	60.5
Heavy Trucks:	60.8	60.3	51.2	52.5	60.8	60.9
Vehicle Noise:	68.6	67.6	64.6	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	141	303	653
CNEL:	70	151	326	701

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Irvine Center Drive (Edinger)
Road Segment: Redhill Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,543 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,262 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	454	979

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: I-5 SB Off-Ramp to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,825 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,761 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.1	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	73.3	70.4	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	156	337	725	1,562
CNEL:	168	362	780	1,681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,976 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,763 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.48	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-11.76	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-15.72	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.8	72.7	70.9	64.9	73.5	74.1
Medium Trucks:	67.2	66.5	60.1	58.6	67.0	67.3
Heavy Trucks:	67.2	66.6	57.6	58.8	67.2	67.3
Vehicle Noise:	75.4	74.4	71.5	66.6	75.1	75.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	176	380	818	1,763
CNEL:	190	409	881	1,897

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Walnut Avenue to Michelle Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,442 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,986 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.4	64.8	58.4	56.8	65.3	65.5
Heavy Trucks:	65.5	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.6	72.7	69.7	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	306	659	1,419
CNEL:	153	329	709	1,526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: I-405 NB Off-Ramp to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,891 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,756 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.47	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.76	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-15.72	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.1	74.1	72.3	66.3	74.9	75.5
Medium Trucks:	68.5	67.9	61.5	60.0	68.4	68.7
Heavy Trucks:	68.6	68.0	58.9	60.2	68.5	68.7
Vehicle Noise:	76.7	75.8	72.8	68.0	76.5	77.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	272	586	1,263	2,721
CNEL:	293	631	1,359	2,928

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Michelle Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,654 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.5	65.0	65.2
Heavy Trucks:	65.2	64.6	55.5	56.8	65.1	65.3
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	292	629	1,355
CNEL:	146	314	677	1,458

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Main Street to Kelvin Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	70,975	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,855	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.85	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.39	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.34	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.5	73.5	71.7	65.6	74.3	74.9
Medium Trucks:	67.9	67.2	60.9	59.3	67.8	68.0
Heavy Trucks:	67.9	67.4	58.3	59.6	67.9	68.1
Vehicle Noise:	76.1	75.2	72.2	67.3	75.9	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	247	533	1,148	2,474
CNEL:	266	573	1,235	2,661

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	88,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,301 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	130 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	88.792
Medium Trucks:	88.747
Heavy Trucks:	88.792

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.81	-3.84	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.43	-3.84	-1.20	*-4.96*	0.000	0.000
Heavy Trucks:	86.40	-15.38	-3.84	-1.20	*-5.14*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	65.9	65.3	58.9	57.4	65.8	66.1
Heavy Trucks:	66.0	65.4	56.3	57.6	66.0	66.1
Vehicle Noise:	74.1	73.2	70.2	65.4	73.9	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	201	433	932	2,009
CNEL:	216	466	1,003	2,161

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Kelvin Avenue to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,776	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,426	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.52	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.72	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.67	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.2	73.1	71.4	65.3	73.9	74.5
Medium Trucks:	67.6	66.9	60.6	59.0	67.5	67.7
Heavy Trucks:	67.6	67.0	58.0	59.2	67.6	67.7
Vehicle Noise:	75.8	74.8	71.9	67.0	75.6	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	235	507	1,091	2,351
CNEL:	253	545	1,174	2,530

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	64,955 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,359 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.47	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.77	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.73	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.1	73.1	71.3	65.3	73.9	74.5
Medium Trucks:	67.5	66.9	60.5	59.0	67.4	67.6
Heavy Trucks:	67.6	67.0	57.9	59.2	67.5	67.7
Vehicle Noise:	75.7	74.8	71.8	67.0	75.5	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	233	502	1,082	2,332
CNEL:	251	540	1,164	2,509

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Birch Street to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,612	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,093	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.1	68.4	62.3	70.9	71.5
Medium Trucks:	64.6	63.9	57.5	56.0	64.5	64.7
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.8	71.8	68.9	64.0	72.6	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	124	268	577	1,244
CNEL:	134	288	621	1,338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Dupont Drive to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,614 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,588 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.79	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.44	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.40	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.3	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.4	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.7	69.8	64.9	73.5	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	293	632	1,361
CNEL:	146	316	680	1,465

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Alton Parkway to Beckman

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,192	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,883	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.06	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.17	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.13	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.7	72.7	70.9	64.9	73.5	74.1
Medium Trucks:	67.1	66.5	60.1	58.5	67.0	67.2
Heavy Trucks:	67.2	66.6	57.5	58.8	67.1	67.3
Vehicle Noise:	75.3	74.4	71.4	66.6	75.1	75.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	219	472	1,017	2,192
CNEL:	236	508	1,094	2,358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Fairchild Road to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,815	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,192	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.40	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.84	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.79	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.6	68.9	62.8	71.4	72.0
Medium Trucks:	65.1	64.4	58.1	56.5	65.0	65.2
Heavy Trucks:	65.1	64.5	55.5	56.7	65.1	65.2
Vehicle Noise:	73.3	72.3	69.4	64.5	73.1	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	276	595	1,282
CNEL:	138	297	640	1,379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Beckman to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,823	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,523	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.4	72.3	70.6	64.5	73.1	73.7
Medium Trucks:	66.8	66.1	59.8	58.2	66.7	66.9
Heavy Trucks:	66.8	66.2	57.2	58.5	66.8	66.9
Vehicle Noise:	75.0	74.1	71.1	66.2	74.8	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	208	449	967	2,083
CNEL:	224	483	1,040	2,240

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: I-5 NB Off-Ramp to El Camino Real
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,710 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,349 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	66.0	59.6	58.0	66.5	66.7
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	942	2,029
CNEL:	218	470	1,013	2,182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Campus Drive to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,420	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,830	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.01	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.23	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.19	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.2	68.5	62.4	71.0	71.6
Medium Trucks:	64.7	64.0	57.7	56.1	64.6	64.8
Heavy Trucks:	64.7	64.1	55.1	56.4	64.7	64.8
Vehicle Noise:	72.9	72.0	69.0	64.1	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	260	560	1,207
CNEL:	130	280	603	1,298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: El Camino Real to West Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,138	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,219	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.43	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.81	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.76	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	66.5	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.7	73.8	70.8	65.9	74.5	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	428	923	1,988
CNEL:	214	461	993	2,139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: West Drive to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,091	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,215	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.43	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.81	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.77	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	66.5	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.7	73.7	70.8	65.9	74.5	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	428	922	1,987
CNEL:	214	461	992	2,138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Bryan Avenue to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,458	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,915	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.11	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.13	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.09	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	69.9	63.9	72.5	73.1
Medium Trucks:	66.2	65.5	59.1	57.6	66.1	66.3
Heavy Trucks:	66.2	65.6	56.6	57.8	66.2	66.3
Vehicle Noise:	74.4	73.4	70.5	65.6	74.2	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	189	408	878	1,892
CNEL:	204	438	945	2,035

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Koll Center to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,123	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,558	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.69	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.55	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.51	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.3	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	533	1,149
CNEL:	124	266	574	1,236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: MacArthur Boulevard to Koll Center

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,776	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,529	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.65	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.58	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.54	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.3	63.7	57.3	55.8	64.2	64.5
Heavy Trucks:	64.4	63.8	54.7	56.0	64.4	64.5
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	246	530	1,143
CNEL:	123	265	571	1,230

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Irvine Boulevard to Portola Pakway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,015 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,394 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.23	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	404	870
CNEL:	94	202	434	936

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Warner Avenue to Edinger Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	87,509 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,219 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.76	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-11.48	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-15.43	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	77.3	76.2	74.5	68.4	77.0	77.7
Medium Trucks:	70.7	70.0	63.7	62.1	70.6	70.8
Heavy Trucks:	70.7	70.1	61.1	62.4	70.7	70.8
Vehicle Noise:	78.9	78.0	75.0	70.1	78.7	79.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	243	523	1,127	2,428
CNEL:	261	563	1,212	2,612

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	72,128	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,951	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	96	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	64.0	feet
Centerline Dist. to Observer:	64.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.92	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.32	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.27	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.5	75.4	73.6	67.6	76.2	76.8
Medium Trucks:	69.9	69.2	62.8	61.3	69.7	70.0
Heavy Trucks:	69.9	69.3	60.3	61.5	69.9	70.0
Vehicle Noise:	78.0	77.1	74.2	69.3	77.8	78.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	213	460	991	2,134
CNEL:	230	495	1,066	2,296

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jamboree Road
Road Segment: Edinger Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,499 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,486 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.57	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.67	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.62	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.1	75.1	73.3	67.2	75.9	76.5
Medium Trucks:	69.5	68.8	62.5	60.9	69.4	69.6
Heavy Trucks:	69.5	69.0	59.9	61.2	69.5	69.6
Vehicle Noise:	77.7	76.8	73.8	68.9	77.5	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	436	938	2,022
CNEL:	218	469	1,010	2,175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Walnut Avenue to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,523	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,663	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	63.1	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.1	70.2	67.1	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	971
CNEL:	104	224	483	1,041

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: I-5 NB Off-Ramp to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,296 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,222 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.23	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.01	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-15.97	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	64.0	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.0	71.1	68.0	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,062
CNEL:	114	245	529	1,139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Poplar (Meadows) to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,868 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,197 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.4	62.9	53.8	55.1	63.4	63.5
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	420	905
CNEL:	97	209	450	970

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,717 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,184 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.4	62.8	53.8	55.1	63.4	63.5
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	419	903
CNEL:	97	209	450	969

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Irvine Center Drive to Poplar (Meadows)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,682 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,016 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.2	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	70.5	69.6	66.4	61.8	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	408	879
CNEL:	94	203	437	942

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: I-405 NB Off-Ramp to Quail Creek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,815 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,192 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.4	62.8	53.8	55.1	63.4	63.5
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	420	904
CNEL:	97	209	450	970

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Barranca Parkway to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,023 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,962 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	404	871
CNEL:	93	201	434	934

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Quail Creek to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,969 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,040 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.13	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.5
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	409	882
CNEL:	95	204	439	946

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Irvine Valley College to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,528 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,756 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	63.0	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.2	69.3	66.1	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	840
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Trabuco Road to Hideaway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,721 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,112 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.98	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.2
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	741
CNEL:	80	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Hideaway to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,668 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,108 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.22	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	740
CNEL:	79	171	369	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Roosevelt to Grove

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,046 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,386 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.35	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.89	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.85	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.2	69.2	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	171	369	795
CNEL:	85	184	396	853

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Grove to Trabuco Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,896 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,209 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.11	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.13	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.08	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	767
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,845 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,380 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.2
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	288	620
CNEL:	66	143	309	665

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Encore to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,420	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,272	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.3	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.5	64.6	61.4	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	189	408
CNEL:	44	94	203	438

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeffrey Road
Road Segment: Irvine Boulevard to Encore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,436 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,191 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.5	57.0	57.2
Heavy Trucks:	58.0	57.4	48.3	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	391
CNEL:	42	90	195	419

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeronimo Road
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,085 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	667 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	56.3	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	64.3	63.4	60.3	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	55	118	255
CNEL:	27	59	127	273

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Jeronimo Road
Road Segment: Alton Parkway to Goodyear

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,560 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	624 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.4	53.3	62.0	62.6
Medium Trucks:	56.0	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.0	63.1	60.0	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	261

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Old Laguna Canyon Road to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,519 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,333 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.69	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.4	68.6	62.5	71.2	71.8
Medium Trucks:	64.8	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	64.8	64.3	55.2	56.5	64.8	65.0
Vehicle Noise:	73.0	72.1	69.1	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	129	278	600	1,292
CNEL:	139	299	645	1,390

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Laguna Canyon Freeway to Quail Hill Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,624 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,372 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.7	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	575
CNEL:	62	133	287	619

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Discovery to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,112 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,247 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	69.2	68.3	65.4	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	251	540
CNEL:	58	125	270	581

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: I-405 Overcrossing to Pasteur

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,544 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	705 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.93	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.17	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.12	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.0	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	67.7	66.8	63.7	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	340
CNEL:	36	79	169	365

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Irvine Center Drive to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,381 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,104 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.6
Heavy Trucks:	60.6	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.7	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	54	115	249	536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Quail Hill Parkway to I-405 Overcrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,544 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	705 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.93	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.17	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.12	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.0	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	67.7	66.8	63.7	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	340
CNEL:	36	79	169	365

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Pasteur to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,491 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	701 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.6	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	66.7	65.8	62.9	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	368
CNEL:	40	85	184	396

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Waterworks to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,487 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	783 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.1	58.5	49.4	50.7	59.1	59.2
Vehicle Noise:	67.2	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	396
CNEL:	43	92	198	426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,272 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	600 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	57.9	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	66.1	65.1	62.2	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	332
CNEL:	36	77	166	357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Laguna Canyon Road
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	581 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	57.7	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	57.8	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	65.9	65.0	62.0	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	151	324
CNEL:	35	75	162	349

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Lake Forest Drive
Road Segment: Hidden Canyon to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,642 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,538 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	529
CNEL:	57	122	264	569

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Lake Forest Drive
Road Segment: Bake Parkway to Hidden Canyon (Romano)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,524 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	69.1	68.2	65.1	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	244	526
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Lake Forest Drive
Road Segment: Tesla to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,734 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,133 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-19.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-23.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	58.4	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	66.1	65.2	62.2	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	450
CNEL:	48	104	225	484

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Lake Road
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,179 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	510 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.32	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	70.80	-19.56	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	77.97	-23.52	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.1	55.1	53.3	47.2	55.9	56.5
Medium Trucks:	51.0	50.3	43.9	42.4	50.8	51.1
Heavy Trucks:	54.2	53.6	44.5	45.8	54.1	54.3
Vehicle Noise:	59.0	58.2	54.3	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	44	96

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Lynx
Road Segment: Irvine Boulevard to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,254 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	103 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-9.25	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-26.49	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-30.45	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.1	49.1	47.3	41.2	49.9	50.5
Medium Trucks:	45.0	44.3	37.9	36.4	44.8	45.1
Heavy Trucks:	48.2	47.6	38.5	39.8	48.1	48.3
Vehicle Noise:	53.0	52.2	48.3	44.3	52.8	53.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	12	27
CNEL:	3	6	13	29

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: I-405 SB Off-Ramp to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,860	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,103	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.88	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.36	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.32	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.0	73.9	72.2	66.1	74.7	75.3
Medium Trucks:	68.2	67.6	61.2	59.6	68.1	68.3
Heavy Trucks:	67.9	67.3	58.3	59.5	67.9	68.0
Vehicle Noise:	76.5	75.5	72.7	67.7	76.3	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	262	563	1,214	2,615
CNEL:	282	607	1,308	2,817

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Main Street to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,009 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.80	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.44	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.9	73.8	72.1	66.0	74.6	75.3
Medium Trucks:	68.1	67.5	61.1	59.6	68.0	68.3
Heavy Trucks:	67.8	67.2	58.2	59.4	67.8	67.9
Vehicle Noise:	76.4	75.5	72.6	67.6	76.2	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	258	557	1,199	2,583
CNEL:	278	599	1,291	2,782

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: I-405 NB Off-Ramp and I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,832 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,936 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.50	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.8	73.8	72.0	66.0	74.6	75.2
Medium Trucks:	68.1	67.4	61.0	59.5	68.0	68.2
Heavy Trucks:	67.8	67.2	58.1	59.4	67.7	67.9
Vehicle Noise:	76.3	75.4	72.5	67.6	76.1	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	256	551	1,187	2,558
CNEL:	276	594	1,279	2,755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Jamboree Road to Fairchild Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,283 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.6
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	357	768
CNEL:	82	178	382	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Fairchild Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,349 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,246 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	69.6	68.7	65.5	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	762
CNEL:	82	176	380	818

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Fitch to Red Hill Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,207 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,482 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.47	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.77	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.73	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	63.0	62.5	53.4	54.7	63.0	63.1
Vehicle Noise:	70.3	69.4	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	810
CNEL:	87	187	403	869

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Michelson Drive to Douglas

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,005	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,713	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.75	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.49	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.45	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	71.9	71.0	67.9	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	281	606	1,306
CNEL:	140	302	650	1,401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Douglas to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,388	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,662	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.69	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.55	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.51	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	64.6	64.0	55.0	56.3	64.6	64.7
Vehicle Noise:	71.9	71.0	67.8	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	129	279	601	1,294
CNEL:	139	299	644	1,388

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Skypark to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,157 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,735 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.42	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.82	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.77	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	320	690
CNEL:	74	159	343	740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Redhill Avenue to Skypark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,891 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,301 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.8	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	68.1	67.2	64.0	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	281	606
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Birch Street to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,778 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,714 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	66.8	65.9	62.7	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	53	115	248	534

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: MacArthur Boulevard
Road Segment: Campus Drive to Birch Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,178	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,912	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.86	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-16.37	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-20.33	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	61.0	60.3	53.9	52.4	60.9	61.1
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.0	68.1	65.0	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	389	839
CNEL:	90	194	418	900

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Gillette Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,614 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,763 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.80	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.43	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.39	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.6
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.6	69.7	66.6	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	396	853
CNEL:	92	197	425	915

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: MacArthur Boulevard to Mercantile

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,827 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,286 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.22	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.02	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	362	780
CNEL:	84	180	388	836

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Executive Park to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,554 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,356 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.42	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.9	60.3	51.3	52.6	60.9	61.0
Vehicle Noise:	68.2	67.3	64.1	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	616
CNEL:	66	142	307	660

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Von Karman Avenue to Cartwright

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,744 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,371 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.2	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	618
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: McDurmott to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,403 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,178 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.7	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	584
CNEL:	63	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Red Hill Avenue to Executive Circle

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,874 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,135 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.7	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	268	576
CNEL:	62	133	287	618

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Jamboree Road to Union

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,963 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,059 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.01	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	563
CNEL:	60	130	280	604

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,634 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,207 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	378
CNEL:	41	87	188	405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Siglo to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,271 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,002 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.7	65.4	66.0
Medium Trucks:	59.4	58.7	52.3	50.8	59.3	59.5
Heavy Trucks:	60.2	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	67.5	66.6	63.4	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	256	552
CNEL:	59	128	275	593

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Veneto to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,292 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,922 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.0	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.3	66.4	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	537
CNEL:	58	124	268	577

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Paseo Westpark to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	991 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.2	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Main Street
Road Segment: Harvard Avenue to San Mateo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,948	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	986	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	330
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Sand Canyon Avenue to Ridge Valley (O Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,895 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,374 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.84	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	77.72	-13.40	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	82.99	-17.35	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	64.0	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	65.3	64.8	55.7	57.0	65.3	65.5
Vehicle Noise:	72.1	71.2	67.9	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	668
CNEL:	71	154	332	715

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Alton Parkway to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,723 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.5	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	69.2	68.3	65.0	60.5	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	57	124	266	574

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Lynx to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,066 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,645 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	61.0	60.4	54.0	52.4	60.9	61.1
Heavy Trucks:	62.3	61.8	52.7	54.0	62.3	62.4
Vehicle Noise:	69.1	68.2	64.9	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	244	526
CNEL:	56	121	261	563

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: County Access to Treble
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,373 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,176 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	60.2	59.5	53.1	51.6	60.1	60.3
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	68.2	67.3	64.0	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	214	461
CNEL:	49	106	229	494

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Ridge Valley (O Street) to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,442 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,099 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	68.1	67.2	63.9	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	451
CNEL:	48	104	224	482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Skyhawk to County Access

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,450 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,687 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.1	66.2	62.9	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	389
CNEL:	42	90	194	417

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,902 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,477 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	177	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Marine Way
Road Segment: Treble to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,855 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,391 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.2	57.6	51.2	49.7	58.1	58.3
Heavy Trucks:	59.5	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	66.3	65.4	62.1	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: McGaw Avenue
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,522 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,198 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	56.2	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	58.1	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	64.2	63.3	59.9	55.5	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	250
CNEL:	27	58	124	267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: McGaw Avenue
Road Segment: Red Hill Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,147 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,167 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	56.1	55.4	49.1	47.5	56.0	56.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.0
Vehicle Noise:	64.1	63.2	59.8	55.4	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	114	246
CNEL:	26	57	122	262

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: McGaw Avenue
Road Segment: Daimler to Red Hill Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,147 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	755 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.0	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	62.2	61.3	57.9	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	85	184
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: McGaw Avenue
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,734 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	391 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-22.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-26.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.1	56.1	54.3	48.2	56.9	57.5
Medium Trucks:	51.3	50.7	44.3	42.8	51.2	51.4
Heavy Trucks:	53.2	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	59.3	58.5	55.0	50.6	59.2	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	55	118
CNEL:	13	27	59	126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Meadowood
Road Segment: Culver Drive to Canyonwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	901 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.6	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	51.5	50.8	44.4	42.9	51.3	51.6
Heavy Trucks:	54.7	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	59.5	58.7	54.8	50.9	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Meridian
Road Segment: Spectrum to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,707 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	223 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-6.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-23.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-27.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.8	51.7	50.0	43.9	52.5	53.1
Medium Trucks:	47.3	46.6	40.3	38.7	47.2	47.4
Heavy Trucks:	49.8	49.2	40.2	41.4	49.8	49.9
Vehicle Noise:	55.3	54.4	50.8	46.6	55.1	55.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	30	64
CNEL:	7	15	32	68

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Meridian
Road Segment: Alton Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,238 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	185 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.0	50.9	49.1	43.1	51.7	52.3
Medium Trucks:	46.5	45.8	39.4	37.9	46.4	46.6
Heavy Trucks:	49.0	48.4	39.3	40.6	48.9	49.1
Vehicle Noise:	54.5	53.6	50.0	45.8	54.3	54.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	60

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Merit
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,718 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	307 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.53	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-21.77	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-25.72	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.8	53.8	52.0	46.0	54.6	55.2
Medium Trucks:	49.7	49.0	42.6	41.1	49.6	49.8
Heavy Trucks:	52.9	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	57.7	56.9	53.0	49.1	57.6	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	27	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Riparian to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,332	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,090	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.0	67.1	63.9	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	449
CNEL:	48	104	223	481

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Almond Tree Lane to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,108 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	834 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.23	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.47	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.42	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	227
CNEL:	24	52	113	243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Von Karman Avenue to Obsidian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,512 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,022 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.9	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	67.9	67.0	63.7	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	204	439
CNEL:	47	101	218	471

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Parkside to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,469 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,854 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	59.5	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	67.5	66.6	63.3	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	415
CNEL:	44	96	206	444

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Gillman to Seton/Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,393 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	775 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.55	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.79	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.74	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.6	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	66.6	65.7	62.4	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	100	217
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Carlson to Prince

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,299	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,252	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.09	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	77.72	-15.15	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	82.99	-19.11	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.1
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.1	66.2	62.9	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	216	465
CNEL:	50	107	231	498

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: MacArthur Boulevard to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,065 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,738 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.2	66.3	63.1	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	184	397
CNEL:	43	92	197	425

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Harvard Avenue to Parkside
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,016	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,486	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	66.6	65.7	62.4	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	358
CNEL:	38	83	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Bixby to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,167 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,499 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.6	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	59.9	59.3	50.2	51.5	59.9	60.0
Vehicle Noise:	66.6	65.7	62.4	57.9	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	167	360
CNEL:	39	83	179	385

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Jamboree Road to Carlson

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,554	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,108	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.80	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.44	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.39	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.4	68.5	65.2	60.7	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	530
CNEL:	57	122	263	567

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Teller to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,444	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,099	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.78	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.46	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.41	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.3	60.7	54.3	52.7	61.2	61.4
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	69.4	68.5	65.2	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	528
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Jordan East to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,980 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	576 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.84	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-21.07	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-25.03	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.8	65.9	62.6	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	83	179
CNEL:	19	41	89	191

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Michelson Drive
Road Segment: Culver Drive to Angell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,905	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	735	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	16	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	40.0	feet
Centerline Dist. to Observer:	40.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.78	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.02	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	82.99	-23.97	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.0	65.1	61.8	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	98	211
CNEL:	23	49	105	225

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Modjeska (A Street)
Road Segment: Portola Springs to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,698 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,130 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	27.659
Medium Trucks:	27.514
Heavy Trucks:	27.659

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.42	3.75	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	79.45	-18.66	3.79	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	84.25	-22.61	3.75	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.4	62.7	56.3	54.8	63.3	63.5
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.4	70.5	67.4	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	363
CNEL:	39	84	181	389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Modjeska (A Street)
Road Segment: South of Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,855 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	153 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.10	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-27.34	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-31.30	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.9	56.2	50.1	58.7	59.3
Medium Trucks:	52.8	52.1	45.7	44.2	52.6	52.9
Heavy Trucks:	53.6	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	60.8	59.9	56.8	52.1	60.6	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	89
CNEL:	10	21	44	96

Saturday, March 2, 2024

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Muirlands Boulevard
Road Segment: Bake Parkway to City Limits
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,718 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,214 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	379
CNEL:	41	88	189	407

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Muirlands Boulevard
Road Segment: Alton Parkway to Sterling

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Muirlands Boulevard
Road Segment: Wrigley to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Newport Coast Drive
Road Segment: SR-73 NB Off-Ramp to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,293 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,427 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.4	65.5	62.2	57.7	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	348
CNEL:	37	80	173	373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Newport Coast Drive
Road Segment: Turtle Crest to Bonita Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,138 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,001 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	64.8	63.9	60.7	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	59	128	275
CNEL:	29	63	137	295

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Nightmist
Road Segment: Sand Canyon Avenue to Tulip (Road C)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,314 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	933 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	58.0	56.2	50.1	58.8	59.4
Medium Trucks:	53.5	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	61.5	60.7	57.0	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	82	177

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Northwood
Road Segment: Yale Avenue to Savannah

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,780 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	394 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.90	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-22.14	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.10	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.3	53.6	47.2	45.7	54.1	54.4
Heavy Trucks:	56.1	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	62.3	61.4	57.9	53.6	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	111
CNEL:	12	26	55	119

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Northwood
Road Segment: Goldrush to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,802 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	314 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.90	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.13	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.09	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	53.3	52.6	46.2	44.7	53.2	53.4
Heavy Trucks:	55.1	54.5	45.5	46.7	55.1	55.2
Vehicle Noise:	61.3	60.4	56.9	52.6	61.1	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	44	95
CNEL:	10	22	47	102

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Oak Canyon Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,369 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,103 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.53	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.76	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-22.72	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.4	68.5	65.3	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	154	332
CNEL:	36	77	165	357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Pacifica
Road Segment: Gateway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,617 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,041 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.0	56.3	49.9	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.8	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	282
CNEL:	30	65	140	302

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Pacifica
Road Segment: Alton Parkway to Gateway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,580 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	790 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	55.8	55.1	48.7	47.2	55.7	55.9
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	63.8	62.9	59.6	55.1	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	51	109	235
CNEL:	25	54	117	252

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Project Name: Irvine GP
Road Name: Pacifica
Job Number: 15937
Road Segment: Irvine Center Drive to Fortune Drive (Spectrum Center Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	570 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.3	57.6	51.5	60.1	60.7
Medium Trucks:	54.4	53.7	47.3	45.8	54.2	54.5
Heavy Trucks:	55.7	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	62.4	61.5	58.2	53.7	62.2	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	88	189
CNEL:	20	44	94	202

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Pacifica
Road Segment: Meridian to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,572 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	377 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-22.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.6	57.5	55.8	49.7	58.3	58.9
Medium Trucks:	52.6	51.9	45.5	44.0	52.4	52.7
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	60.6	59.7	56.4	51.9	60.4	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	31	67	143
CNEL:	15	33	71	154

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Park Place
Road Segment: Christamon South to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,747 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	309 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.2	53.2	51.4	45.3	54.0	54.6
Medium Trucks:	48.7	48.0	41.7	40.1	48.6	48.8
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	56.7	55.9	52.2	48.0	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	84

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Bee Canyon Access Road to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,951 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,058 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.3	62.7	53.6	54.9	63.3	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	754
CNEL:	81	175	377	811

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Jeffrey Road to Bee Canyon Access Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,889 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,053 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	753
CNEL:	81	175	376	810

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Arrowhead to Ridge Valley Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,410 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,931 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	71.1	70.2	67.3	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	156	336	723
CNEL:	78	168	361	778

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Sand Canyon Avenue to Arrowhead

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,503 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,774 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.5
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	317	683
CNEL:	73	158	341	735

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Portola Springs to SR-241 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,090 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,410 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.6	61.0	52.0	53.3	61.6	61.7
Vehicle Noise:	69.8	68.9	65.9	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	586
CNEL:	63	136	293	630

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Gatepark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,312	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,418	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.5	69.5	66.6	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	876
CNEL:	94	203	437	942

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: ETC-6 (SR-261) NB Off-Ramp to Gatepark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,911 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,385 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.2	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	62.3	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	934

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,023 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,312 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.82	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	395	850
CNEL:	91	197	424	914

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Jamboree Road to Bellevue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,703 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,286 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.47	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.43	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.4	53.7	62.1	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	392	843
CNEL:	91	195	421	907

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Bellevue to ETC-6 (SR-261) SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,438 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,264 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	69.0
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	389	838
CNEL:	90	194	418	902

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Yale Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,088 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,152 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.51	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.73	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.69	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	810
CNEL:	87	188	405	872

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Culver Drive to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,869 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,887 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.3
Vehicle Noise:	69.4	68.5	65.5	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	742
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Portola Parkway
Road Segment: Silverado to Portola Springs

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,134 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,001 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.1	59.6	50.5	51.8	60.1	60.2
Vehicle Noise:	68.3	67.4	64.4	59.5	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	100	216	466
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Pusan
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,468 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	204 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.31	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.55	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.51	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.1	52.0	50.2	44.2	52.8	53.4
Medium Trucks:	47.9	47.2	40.9	39.3	47.8	48.0
Heavy Trucks:	51.1	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	55.9	55.1	51.2	47.3	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Quail Hill Parkway
Road Segment: Shady Canyon Drive to Passage

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,648 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,291 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.84	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.08	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.3	62.5	56.5	65.1	65.7
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.2
Heavy Trucks:	60.0	59.4	50.3	51.6	60.0	60.1
Vehicle Noise:	67.2	66.3	63.2	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	183	395
CNEL:	42	91	197	424

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Quail Hill Parkway
Road Segment: East Knollcrest to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,734 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	803 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.2	60.5	54.4	63.0	63.7
Medium Trucks:	57.1	56.4	50.0	48.5	57.0	57.2
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.1	64.2	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	134	288
CNEL:	31	67	143	309

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Project Name: Irvine GP
Road Name: Quassar Drive (Spectrum)
Job Number: 15937
Road Segment: Irvine Center Drive to Spectrum Center Drive (Fortune)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,026 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	167 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.17	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.40	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	77.97	-28.36	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.8	50.8	49.0	42.9	51.6	52.2
Medium Trucks:	46.7	46.0	39.6	38.1	46.6	46.8
Heavy Trucks:	49.9	49.3	40.3	41.5	49.9	50.0
Vehicle Noise:	54.7	53.9	50.0	46.1	54.6	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	9	18	40

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: MacArthur Boulevard to McGaw Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,982 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,711 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	214	461	993
CNEL:	107	230	495	1,067

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: I-405 Over Crossing to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,560 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,861 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	279	601
CNEL:	65	139	300	646

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: Alton Parkway to Deere Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,869 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,629 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.7	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.8	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	848

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: McGaw Avenue to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,060 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,562 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.7	68.8	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	360	776
CNEL:	83	180	387	833

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: Deere Avenue to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,932 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,469 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	351	757
CNEL:	81	175	377	813

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: Skypark East to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,918 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,808 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.16	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.07	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.03	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.5	69.2	69.8
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	691
CNEL:	74	160	345	742

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Red Hill Avenue
Road Segment: Main Street to Skypark East
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,979 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,566 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.46	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.70	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.66	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.4	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.5	61.7	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	628
CNEL:	67	145	313	674

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Research Drive
Road Segment: Hubble to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,625 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,114 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.3	60.6	54.2	52.7	61.2	61.4
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.3	68.4	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	273	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Research Drive
Road Segment: Scientific to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,298	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,262	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.1
Heavy Trucks:	59.9	59.3	50.2	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	389
CNEL:	42	90	194	418

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Research Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,951 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,068 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.3	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.1	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	66.4	65.5	62.3	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	348
CNEL:	37	81	173	374

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Research Drive
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,459 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	863 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.4	56.7	50.3	48.8	57.3	57.5
Heavy Trucks:	58.2	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	150	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Irvine Boulevard to Trabuco Road (Great Park Boulevard)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,025 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,240 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	59.0	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.0	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	179	385
CNEL:	41	89	192	413

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ridge Valley (O Street)
Road Segment: Portola Parkway to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,161 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,003 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ridge Valley (O Street)
Road Segment: Trabuco Road (Great Park Boulevard) to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	918 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ridge Valley (O Street)
Road Segment: Ranchland to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	930 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	77 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-13.10	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-30.34	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-34.29	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	54.9	53.2	47.1	55.7	56.3
Medium Trucks:	49.8	49.1	42.7	41.2	49.6	49.9
Heavy Trucks:	50.6	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	57.8	56.9	53.8	49.1	57.6	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	60

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ridgeline Drive
Road Segment: Concordia East to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,232	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,339	vehicles
Vehicle Speed:	35	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	40.0	feet
Centerline Dist. to Observer:	40.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.41	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-16.83	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-20.79	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	68.5	67.6	64.2	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	71	154	331

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Ridgeline Drive
Road Segment: Turtle Rock Drive to San Simeon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,110 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,247 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.10	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.14	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.10	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	68.2	67.3	63.9	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	137	295
CNEL:	32	68	146	315

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Rockfield Avenue
Road Segment: Whatney to McLaren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,361 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.4	58.7	52.3	50.8	59.2	59.5
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.4	66.5	63.4	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	190	409
CNEL:	44	95	204	439

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Rockfield Avenue
Road Segment: Bake Parkway to Whatney

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,559 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	624 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.4	53.3	62.0	62.6
Medium Trucks:	56.0	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.0	63.1	60.0	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	261

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Rockfield Avenue
Road Segment: Thomas to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,734 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	473 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	59.9	58.2	52.1	60.8	61.4
Medium Trucks:	54.8	54.1	47.7	46.2	54.7	54.9
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.8	61.9	58.8	54.1	62.7	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	94	202
CNEL:	22	47	101	217

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Roosevelt
Road Segment: Jeffrey Road to Vision

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,060 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,407 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.7
Medium Trucks:	58.3	57.6	51.2	49.7	58.2	58.4
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.3	65.4	62.1	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	74	160	345
CNEL:	37	80	172	370

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Roosevelt
Road Segment: Yale Avenue to Van Buren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	758 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.64	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-19.88	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-23.84	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.0	67.1	63.8	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	100	215
CNEL:	23	50	107	230

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Roosevelt
Road Segment: Vision to Bay Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,183 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,335 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.3	55.2	63.8	64.4
Medium Trucks:	58.1	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	59.4	58.8	49.7	51.0	59.4	59.5
Vehicle Noise:	66.1	65.2	61.9	57.4	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	333
CNEL:	36	77	166	357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Roosevelt
Road Segment: Nimitz to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,507 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,197 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.8	54.7	63.3	63.9
Medium Trucks:	57.6	56.9	50.5	49.0	57.5	57.7
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	65.6	64.7	61.4	56.9	65.4	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	71	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Roosevelt
Road Segment: Tulip (Road C) to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,131 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.3	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	58.7	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.4	64.5	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	298
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Royal Oak
Road Segment: Alton Parkway to Eaglecreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	398 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.86	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	75.75	-22.09	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	81.57	-26.05	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	63.8	62.9	59.5	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Oak Canyon Drive to Burt Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,595 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,257 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	64.2	63.6	54.5	55.8	64.2	64.3
Vehicle Noise:	71.9	71.0	67.9	63.1	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	234	505	1,088
CNEL:	117	252	543	1,169

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Irvine Center Drive to Oak Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,313 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,068 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.6	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	64.0	63.4	54.3	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.7	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	227	490	1,056
CNEL:	113	244	526	1,134

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-405 NB Off-Ramp to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,837 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.43	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.81	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.76	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.9	63.8	72.4	73.0
Medium Trucks:	66.3	65.6	59.2	57.7	66.1	66.4
Heavy Trucks:	66.7	66.1	57.0	58.3	66.7	66.8
Vehicle Noise:	74.4	73.5	70.4	65.6	74.2	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	246	530	1,141
CNEL:	123	264	569	1,226

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Burt Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,826 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,441 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.07	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.17	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.13	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	68.0	61.9	70.5	71.1
Medium Trucks:	64.3	63.7	57.3	55.8	64.2	64.5
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.5	71.6	68.5	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	527	1,135
CNEL:	122	263	566	1,220

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Marine to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,722	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,010	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.59	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.65	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.60	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.9	63.8	72.4	73.0
Medium Trucks:	66.2	65.6	59.2	57.7	66.1	66.4
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.4	73.5	70.4	65.6	74.2	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	190	409	882	1,900
CNEL:	204	440	947	2,041

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Trabuco Road to Towngate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,436 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,253 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	422	910
CNEL:	98	211	454	977

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,030 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,220 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	419	903
CNEL:	97	209	450	970

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-5 SB Off-Ramp to Marine

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,537 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,169 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.79	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.45	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.9	70.8	69.1	63.0	71.6	72.2
Medium Trucks:	65.5	64.8	58.4	56.9	65.3	65.6
Heavy Trucks:	65.9	65.3	56.2	57.5	65.8	66.0
Vehicle Noise:	73.6	72.7	69.6	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	168	362	780	1,681
CNEL:	181	389	838	1,806

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Hospital to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,782 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,117 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.53	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.71	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.67	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	884
CNEL:	95	205	441	950

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Nightmist to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,881 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.48	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.76	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.71	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.6	65.0	55.9	57.2	65.5	65.7
Vehicle Noise:	73.3	72.4	69.3	64.5	73.1	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	160	345	744	1,602
CNEL:	172	371	799	1,722

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-405 SB Off-Ramp to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,253 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,991 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.35	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.89	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.84	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.8	62.7	71.3	72.0
Medium Trucks:	65.2	64.5	58.1	56.6	65.1	65.3
Heavy Trucks:	65.6	65.0	56.0	57.2	65.6	65.7
Vehicle Noise:	73.3	72.4	69.3	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	208	449	966
CNEL:	104	224	482	1,038

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-5 NB Off-Ramp to Nightmist

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,459 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,833 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.43	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.81	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.77	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.6	71.3	71.9
Medium Trucks:	65.1	64.4	58.1	56.5	65.0	65.2
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	159	342	738	1,589
CNEL:	171	368	793	1,707

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Towngate to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,028 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,807 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.16	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	178	383	824
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Waterworks to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,123 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,733 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.2	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	70.0	69.0	66.0	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	810
CNEL:	87	187	404	870

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Irvine Boulevard to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,682 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,459 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	60.8	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.2	60.6	51.5	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.1	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	237	511
CNEL:	55	118	255	549

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Roosevelt to Trabuco Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	153	331	712	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon Avenue
Road Segment: Alton Parkway to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,402 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,838 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.12	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.12	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.07	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	391	842
CNEL:	90	195	420	905

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sand Canyon/Shady Canyon
Road Segment: Quail Hill Parkway to I-405 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,990 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,979 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.56	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.68	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.64	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	734
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Scientific Way
Road Segment: Irvine Center Drive to Wald

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,653 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	136 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-9.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-26.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-30.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.5	51.5	49.7	43.7	52.3	52.9
Medium Trucks:	46.8	46.1	39.7	38.2	46.6	46.9
Heavy Trucks:	48.6	48.0	39.0	40.2	48.6	48.7
Vehicle Noise:	54.8	53.9	50.5	46.1	54.6	55.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	27	59
CNEL:	6	14	29	63

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Shady Canyon Drive
Road Segment: Culver Drive/Bonita Canyon Drive to Cloverfield

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,409 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	776 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.51	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-20.75	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-24.70	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	313
CNEL:	34	73	156	337

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Shady Canyon Drive
Road Segment: Bommer Canyon Road to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,049 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	664 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.19	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.42	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.38	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.3	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.4	66.5	63.5	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	70	152	326
CNEL:	35	76	163	351

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Skyhawk
Road Segment: Great Park Boulevard to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,431 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	861 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-0.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.4	53.6	47.6	56.2	56.8
Medium Trucks:	51.3	50.6	44.2	42.7	51.2	51.4
Heavy Trucks:	54.5	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	59.3	58.5	54.6	50.7	59.2	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	55	118
CNEL:	13	27	58	126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Southwood
Road Segment: Yale Avenue to Colt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,054 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	252 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.85	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.08	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.04	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.1	57.0	55.3	49.2	57.8	58.4
Medium Trucks:	52.3	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.2	53.6	44.5	45.8	54.1	54.3
Vehicle Noise:	60.3	59.4	56.0	51.6	60.1	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	83
CNEL:	9	19	41	88

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Southwood
Road Segment: Challenger to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	240 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.06	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.30	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.25	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.9	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	52.1	51.4	45.1	43.5	52.0	52.2
Heavy Trucks:	53.9	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	60.1	59.2	55.8	51.4	59.9	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Spectrum Center Drive (Fortune
Road Segment: Pacifica to Quassar Drive (Spectrum)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,853 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	978 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.2	56.4	50.3	59.0	59.6
Medium Trucks:	53.7	53.0	46.7	45.1	53.6	53.8
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	61.7	60.9	57.2	53.0	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	171
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Spectrum Center Drive (Fortune
Road Segment: Quassar Drive (Spectrum) to Gatewayb

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,277 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,095 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-20.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.9	50.8	59.4	60.1
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.7	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	62.2	61.4	57.7	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	184
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Sunnyhill
Road Segment: Shady Canyon Drive to Turtle Rock Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,807 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	562 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-1.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-19.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-23.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.6	53.5	51.8	45.7	54.3	54.9
Medium Trucks:	49.4	48.7	42.4	40.8	49.3	49.5
Heavy Trucks:	52.6	52.0	43.0	44.3	52.6	52.7
Vehicle Noise:	57.5	56.6	52.7	48.8	57.3	57.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	89
CNEL:	9	20	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Technology Drive
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,564 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,769 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	305	657
CNEL:	71	152	327	705

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Technology Drive
Road Segment: Old Laguna Canyon Road to I-5/SR-133 Undercrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,455	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,100	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.2	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.3	68.4	65.3	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	547
CNEL:	59	126	272	586

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Technology Drive
Road Segment: I-5/SR-133 to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,498	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,021	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.1	60.4	54.0	52.5	61.0	61.2
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.2	68.2	65.1	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	533
CNEL:	57	123	265	572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Technology Drive
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,550 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.86	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.8	52.7	61.3	61.9
Medium Trucks:	55.3	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	63.4	62.5	59.4	54.7	63.2	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	221
CNEL:	24	51	110	237

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Toledo Way
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,798 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	643 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	57.6	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	65.3	64.4	61.4	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	137	296
CNEL:	32	69	148	318

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Toledo Way
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	56.8	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.5	63.6	60.5	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	260
CNEL:	28	60	129	279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Toledo Way
Road Segment: Alton Parkway to Parker

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,994 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	494 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	56.1	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	56.5	55.9	46.8	48.1	56.5	56.6
Vehicle Noise:	64.2	63.3	60.2	55.4	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	115	248
CNEL:	27	57	124	267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: Keystone to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,736 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,216 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.5
Medium Trucks:	58.9	58.2	51.8	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	380
CNEL:	41	88	189	407

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: Jeffrey Road to Keystone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,256	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,176	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.1	58.6	58.8
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	66.8	65.9	62.7	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	371
CNEL:	40	86	185	398

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: Culver Drive to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,483 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,112 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.3	58.7	49.7	51.0	59.3	59.4
Vehicle Noise:	66.6	65.7	62.5	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	358
CNEL:	38	83	178	384

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: Monroe to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,111 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	58.5	57.8	51.4	49.9	58.4	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.6	65.6	62.5	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	358
CNEL:	38	83	178	384

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: I-5 NB Off-Ramp to Monroe

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,135 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,084 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.4	65.0
Medium Trucks:	58.4	57.7	51.3	49.8	58.3	58.5
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.4	65.5	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: Yale Avenue to Remington

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,278	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,013	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.3	61.5	55.4	64.1	64.7
Medium Trucks:	58.1	57.4	51.0	49.5	58.0	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.2	65.2	62.1	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	336
CNEL:	36	78	167	361

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Trabuco Road
Road Segment: Remington to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,518	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	950	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.8	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	58.6	58.1	49.0	50.3	58.6	58.7
Vehicle Noise:	65.9	65.0	61.8	57.1	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	150	322
CNEL:	35	74	160	346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Ridge Drive
Road Segment: Federation Way to Bonita Canyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,930 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,727 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.5	67.6	64.4	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	223	480
CNEL:	51	111	239	515

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Rock Drive
Road Segment: Ridgeline to Willowleaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,823 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	728 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.33	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.57	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.52	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.6
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	252
CNEL:	27	58	125	270

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Rock Drive
Road Segment: Silkwood to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,720 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	719 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.38	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.62	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.58	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.6	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	250
CNEL:	27	58	124	268

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Rock Drive
Road Segment: Canyon Park to Ridgeline
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,353 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	607 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.12	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.32	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	59.0	49.9	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	223
CNEL:	24	52	111	239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Rock Drive
Road Segment: Sunnyhill to Southernwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,658 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	302 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.15	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-28.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	56.0	46.9	48.2	56.5	56.6
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	70	150

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Rock Drive
Road Segment: Campus Drive to Hillgate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,260 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	599 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	56.6	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	63.9	63.0	59.8	55.1	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	237
CNEL:	25	55	118	254

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Turtle Rock Drive
Road Segment: Paseo Segovia to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,076 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	336 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.68	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-23.92	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-27.88	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	65.2	64.3	61.1	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	186
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Golden Glow to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,009 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,548 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	65.0	64.4	55.4	56.7	65.0	65.1
Vehicle Noise:	72.7	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	199	429	924
CNEL:	99	214	461	993

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Ridgeline to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,328 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.95	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.28	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-17.24	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.6	67.8	61.7	70.4	71.0
Medium Trucks:	64.2	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	482	1,039
CNEL:	112	240	518	1,116

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Culver Drive to Golden Glow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,770	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,446	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.9	68.1	62.0	70.7	71.3
Medium Trucks:	64.5	63.8	57.5	55.9	64.4	64.6
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	72.6	71.7	68.7	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	906
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Yale Avenue to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,097 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,061 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.6	61.5	70.1	70.8
Medium Trucks:	64.0	63.3	56.9	55.4	63.9	64.1
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.1	71.2	68.1	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	900

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,053 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,872 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.3	63.7	57.3	55.8	64.2	64.5
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.5	71.6	68.5	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	256	553	1,190
CNEL:	128	276	594	1,279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Mesa to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,247 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,733 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.31	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.93	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.88	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	66.1	65.5	59.1	57.6	66.0	66.3
Heavy Trucks:	66.6	66.0	56.9	58.2	66.5	66.7
Vehicle Noise:	74.3	73.3	70.3	65.5	74.1	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	241	520	1,120
CNEL:	120	259	559	1,204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,232 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,649 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.21	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.03	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.98	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.6	63.6	72.2	72.8
Medium Trucks:	66.0	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.5	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.2	73.2	70.2	65.4	74.0	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	238	512	1,104
CNEL:	119	255	550	1,186

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: California Avenue to Mesa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,280 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,653 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.22	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.02	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.98	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.6	63.6	72.2	72.8
Medium Trucks:	66.0	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.5	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.2	73.3	70.2	65.4	74.0	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	238	513	1,104
CNEL:	119	256	551	1,186

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,107 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,061 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.8
Vehicle Noise:	70.5	69.5	66.5	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	873
CNEL:	94	202	436	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,626 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,619 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.32	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-17.55	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-21.51	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.2	62.5	56.1	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	275	591
CNEL:	64	137	295	635

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,890 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,713 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	374	806
CNEL:	87	187	402	866

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: San Joaquin to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,341 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,503 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.4	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	61.9	61.3	52.2	53.5	61.8	62.0
Vehicle Noise:	69.6	68.7	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	165	354	764
CNEL:	82	177	381	820

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: University Drive
Road Segment: Harvard Avenue to San Joaquin
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,225 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,494 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.63	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.8	54.4	52.9	61.3	61.5
Heavy Trucks:	61.8	61.3	52.2	53.5	61.8	62.0
Vehicle Noise:	69.6	68.6	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	762
CNEL:	82	176	380	818

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Valley Oak Drive
Road Segment: Hawkcreek to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,886 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,146 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.9	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	94	202	435
CNEL:	47	101	217	467

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Valley Oak Drive
Road Segment: Irvine Center Drive to Oak Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,023 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.31	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-19.55	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-23.51	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.3	68.4	65.3	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	202	435
CNEL:	47	101	217	468

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Valley Oak Drive
Road Segment: Barranca Parkway to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	914 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-20.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.7	58.1	51.7	50.1	58.6	58.8
Heavy Trucks:	59.1	58.6	49.5	50.8	59.1	59.2
Vehicle Noise:	66.9	65.9	62.9	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	374
CNEL:	40	87	186	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Valley Oak Drive
Road Segment: Alton Parkway to Hawkcreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,689 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	552 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.5	55.9	49.5	48.0	56.4	56.6
Heavy Trucks:	56.9	56.4	47.3	48.6	56.9	57.1
Vehicle Noise:	64.7	63.7	60.7	55.9	64.5	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	124	267
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Marriott to Morse Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,254	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,908	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	70.7	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	315	679
CNEL:	73	157	338	729

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Michelson Drive to Quartz

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,068 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,811 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.3	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	70.6	69.7	66.5	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	664
CNEL:	71	153	331	712

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,488 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,763 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.5
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	141	305	656
CNEL:	70	152	327	704

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,190 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,398 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.36	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.88	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	84.25	-17.83	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.1	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	742
CNEL:	80	172	369	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Main Street to Anchor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,693 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,697 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.4
Heavy Trucks:	63.2	62.6	53.5	54.8	63.2	63.3
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	300	646
CNEL:	69	149	322	693

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Anchor to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,540 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,602 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.3	69.3	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	631
CNEL:	68	146	314	677

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Morse to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,827 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,461 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.0
Heavy Trucks:	62.8	62.2	53.1	54.4	62.8	62.9
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	608
CNEL:	65	140	303	652

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Martin to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,714	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,121	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	255	550
CNEL:	59	127	274	590

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Campus Drive to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,190 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,078 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.1
Vehicle Noise:	69.3	68.4	65.2	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	543
CNEL:	58	125	270	582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Von Karman Avenue
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,012 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,063 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.8
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	251	540
CNEL:	58	125	269	580

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Jeffrey Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,800 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,871 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.4	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	313	673
CNEL:	72	156	335	722

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Myford Road to Jamboree Road SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,977 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,896 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.6	61.1	52.0	53.3	61.6	61.7
Vehicle Noise:	68.9	68.0	64.8	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	237	511
CNEL:	55	118	254	548

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: The Mall Street to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,348 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,761 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.5	59.8	53.4	51.9	60.4	60.6
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.6	67.6	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	486
CNEL:	52	112	242	522

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Harvard Avenue to The Mall Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,283 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,756 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.1
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.5	67.6	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	225	485
CNEL:	52	112	242	521

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Franciscan Street to Ravenwood Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,627 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,619 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.2	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	460
CNEL:	49	106	229	493

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Ravenwood Street to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,787 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,632 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	462
CNEL:	50	107	230	496

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Culver Drive to Franciscan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,171 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,582 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	210	453
CNEL:	49	105	225	485

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Peters Canyon Road to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,108 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,154 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	67.8	66.9	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	269	580
CNEL:	62	134	289	622

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Jamboree Road NB Off-Ramp to Peters Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,069 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	50.9	59.4	59.6
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	122	262	565
CNEL:	61	130	281	606

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Yale Avenue to Kazan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,945 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,233 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.9	58.3	51.9	50.4	58.8	59.0
Heavy Trucks:	59.8	59.2	50.1	51.4	59.8	59.9
Vehicle Noise:	67.0	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	383
CNEL:	41	89	191	411

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Walnut Avenue
Road Segment: Wisteria to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,674 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,211 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	379
CNEL:	41	88	189	406

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Warner Avenue
Road Segment: Jamboree Road SB Off-ramp to Construction North
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,278	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,415	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	279	600
CNEL:	64	139	299	644

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Warner Avenue
Road Segment: Construction North to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,424 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,685 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.8	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	472
CNEL:	51	109	235	506

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Warner Avenue
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,244 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,175 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.1	58.6	58.8
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	66.8	65.9	62.7	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	371
CNEL:	40	86	185	398

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Warner Avenue
Road Segment: Santa Ynez to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,546 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	953 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.8	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	58.7	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.9	65.0	61.8	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	323
CNEL:	35	75	161	346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Warner Avenue
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,716 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	884 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.7	60.9	54.8	63.5	64.1
Medium Trucks:	57.5	56.8	50.5	48.9	57.4	57.6
Heavy Trucks:	58.3	57.7	48.7	50.0	58.3	58.4
Vehicle Noise:	65.6	64.7	61.5	56.8	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	143	307
CNEL:	33	71	153	329

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Alton Parkway to Blue Lake North
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,475 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	782 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.1	48.7	47.2	55.6	55.8
Heavy Trucks:	57.0	56.5	47.4	48.7	57.0	57.2
Vehicle Noise:	63.8	62.9	59.6	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Eagle Run to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,135 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	754 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.8	52.7	61.3	61.9
Medium Trucks:	55.6	54.9	48.5	47.0	55.5	55.7
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	63.6	62.7	59.4	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	228
CNEL:	24	52	113	244

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Thunder Run to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,371 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	773 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.1
Medium Trucks:	55.7	55.0	48.6	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	107	231
CNEL:	25	53	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Main Street to Timber Run
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,206 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	594 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	54.5	53.9	47.5	46.0	54.4	54.7
Heavy Trucks:	55.9	55.3	46.2	47.5	55.8	56.0
Vehicle Noise:	62.6	61.7	58.4	53.9	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	194
CNEL:	21	45	97	208

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Yale Avenue to Shorebird

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,821 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	645 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.9	58.1	52.0	60.7	61.3
Medium Trucks:	54.9	54.2	47.9	46.3	54.8	55.0
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	62.9	62.0	58.8	54.2	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	44	95	205
CNEL:	22	47	102	220

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Warner Avenue to Stonecreek South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,943 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	573 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.3	57.6	51.5	60.1	60.7
Medium Trucks:	54.4	53.7	47.3	45.8	54.3	54.5
Heavy Trucks:	55.7	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	62.4	61.5	58.2	53.7	62.2	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	88	190
CNEL:	20	44	94	203

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,571 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	542 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	55.5	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.2	61.3	58.0	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Stonecreek North to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,771 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	559 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.5	51.4	60.0	60.6
Medium Trucks:	54.3	53.6	47.2	45.7	54.2	54.4
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	87	186
CNEL:	20	43	93	200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: West Yale Loop
Road Segment: Birdsong to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,532 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	539 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.1	55.4	55.5
Vehicle Noise:	62.1	61.3	58.0	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	182
CNEL:	19	42	90	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Westwood
Road Segment: Yorktown to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,042 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	498 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.88	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-21.12	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-25.08	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.3	54.6	48.2	46.7	55.2	55.4
Heavy Trucks:	57.1	56.5	47.5	48.8	57.1	57.2
Vehicle Noise:	63.3	62.4	59.0	54.6	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	130
CNEL:	14	30	64	139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Westwood
Road Segment: Bryan Avenue to Leaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,912 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	323 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.77	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.01	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.97	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	53.4	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	55.2	54.6	45.6	46.9	55.2	55.3
Vehicle Noise:	61.4	60.5	57.1	52.7	61.2	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	45	97
CNEL:	10	22	48	104

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Deerfield Avenue to Winvale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,497 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	866 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.58	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.81	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.77	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.4	67.4	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	303

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Hicks Canyon Drive to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,806 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	644 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.86	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.10	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.06	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	54	116	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Walnut Avenue to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,894 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,229 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.06	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.29	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-22.25	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.8	62.1	55.7	54.2	62.6	62.9
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	70.8	69.9	66.8	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	204	440
CNEL:	47	102	219	472

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,285 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,179 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.8
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,571 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,120 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.4	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	66.6	65.7	62.5	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	167	359
CNEL:	39	83	179	386

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: West Yale Loop to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,463 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,028 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	58.1	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.0	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	66.2	65.3	62.2	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	340
CNEL:	36	78	169	364

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Winvale Avenue to Karen Ann Lane

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,439 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	861 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.4	56.7	50.3	48.8	57.3	57.5
Heavy Trucks:	58.2	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	65.4	64.5	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	150	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Karen Ann Lane to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,439 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	861 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.4	56.7	50.3	48.8	57.3	57.5
Heavy Trucks:	58.2	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	65.4	64.5	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	150	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Trabuco Road to Southwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,232 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	844 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.1	57.5	48.5	49.8	58.1	58.2
Vehicle Noise:	65.4	64.5	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Southwood to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,703 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	801 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.2	60.5	54.4	63.0	63.6
Medium Trucks:	57.1	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.1	64.2	61.1	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	133	287
CNEL:	31	66	143	308

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Northwood to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,106 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	751 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	56.8	56.1	49.7	48.2	56.7	56.9
Heavy Trucks:	57.6	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	64.9	63.9	60.8	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	59	128	276
CNEL:	30	64	137	296

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,826 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	728 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	56.6	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	64.7	63.8	60.7	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	270
CNEL:	29	62	134	289

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: Irvine Boulevard to Park Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,442 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	614 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	56.7	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.0	63.1	59.9	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	56	120	258

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Avenue
Road Segment: University Drive to Royce

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,105 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	339 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.65	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-23.89	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-27.85	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.5	60.5	58.7	52.6	61.3	61.9
Medium Trucks:	55.3	54.6	48.2	46.7	55.2	55.4
Heavy Trucks:	56.1	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	63.4	62.4	59.3	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	38	81	175
CNEL:	19	40	87	188

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Conservative
Road Name: Yale Court
Road Segment: Arborwood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,458	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	533	vehicles
Vehicle Speed:	25	mph
Near/Far Lane Distance:	12	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	37.5	feet
Centerline Dist. to Observer:	37.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.13	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-19.37	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-23.33	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.2	54.4	48.4	57.0	57.6
Medium Trucks:	52.1	51.4	45.0	43.5	52.0	52.2
Heavy Trucks:	55.3	54.7	45.7	46.9	55.3	55.4
Vehicle Noise:	60.1	59.3	55.4	51.5	60.0	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ada
Road Segment: Barranca Parway to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,117 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,907 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.36	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-15.87	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-19.83	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.9
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	70.5	69.6	66.3	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	395
CNEL:	42	91	196	423

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ada
Road Segment: Alton Parkway to Barranca PArkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,720 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,617 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	61.0	60.3	53.9	52.4	60.9	61.1
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.0	68.1	64.8	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	522
CNEL:	56	120	259	559

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Enterprise to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,648 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,736 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.2	71.1	69.4	63.3	71.9	72.5
Medium Trucks:	65.7	65.1	58.7	57.2	65.6	65.9
Heavy Trucks:	66.2	65.6	56.5	57.8	66.1	66.3
Vehicle Noise:	73.9	73.0	69.9	65.1	73.7	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	148	318	686	1,478
CNEL:	159	342	737	1,587

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: I-5 NB Off-Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	86,442 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,131 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.12	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.12	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.07	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.8	70.0	64.0	72.6	73.2
Medium Trucks:	66.4	65.7	59.4	57.8	66.3	66.5
Heavy Trucks:	66.8	66.2	57.2	58.4	66.8	66.9
Vehicle Noise:	74.5	73.6	70.6	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	156	335	723	1,557
CNEL:	167	360	776	1,673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,708 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.4	62.8	56.4	54.9	63.3	63.6
Heavy Trucks:	63.9	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	71.6	70.7	67.6	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	772
CNEL:	83	179	385	829

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Gateway Boulevard to Enterprise

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,714 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,101 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,061
CNEL:	114	246	529	1,140

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Jeffrey Road to Royal Oak

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,627 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,197 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.6
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.7	69.7	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	671
CNEL:	72	155	335	721

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Daimler Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,127 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,073 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	300	646
CNEL:	69	149	322	694

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,181 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,077 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	300	647
CNEL:	69	150	322	695

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,249 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,083 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	301	648
CNEL:	70	150	323	696

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,629 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,342 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.97	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.27	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.23	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.4	71.5	68.4	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	241	519	1,118
CNEL:	120	259	558	1,201

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Creek Road to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,987 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,061 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.0	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	643
CNEL:	69	149	321	691

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Red Hill Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,832 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,049 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	641
CNEL:	69	148	319	688

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,753 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,960 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.5	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	70.2	69.2	66.2	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	668

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Telemetry to Banting
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,832 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,966 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.5	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	70.2	69.3	66.2	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	623
CNEL:	67	144	311	670

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Irvine Boulevard to Commercentre

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,199 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,151 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.6	69.7	66.6	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	890
CNEL:	96	206	444	957

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Jenner to Telemetry

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,455 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,935 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.0	61.3	54.9	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	617
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Irvine Center Drive to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,235 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,484 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.9	62.2	55.8	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	205	442	952
CNEL:	102	220	475	1,023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Sand Canyon Avenue to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,175 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,067 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.46	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.78	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.74	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.8	71.5	72.1
Medium Trucks:	65.3	64.6	58.3	56.7	65.2	65.4
Heavy Trucks:	65.7	65.1	56.1	57.3	65.7	65.8
Vehicle Noise:	73.4	72.5	69.5	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	212	456	983
CNEL:	106	227	490	1,056

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Laguna Canyon Road to Jenner

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,971 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,895 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	608
CNEL:	65	141	303	653

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Technology Drive East to Barranca Pkwy/Muirlands Blvd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,733 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,443 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.23	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.8	62.2	55.8	54.3	62.7	62.9
Heavy Trucks:	63.2	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.0	70.0	67.0	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	203	438	945
CNEL:	101	219	471	1,015

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Royal Oak to Valley Oak Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,072 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,821 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	592
CNEL:	64	137	295	636

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,772 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,796 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.7	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.8	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	587
CNEL:	63	136	293	631

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Barranca Pkwy/Muirlands Blvd to Jeronimo Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,264 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,239 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	907
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Ada to Technology Drive East
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,976 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,051 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	404	871
CNEL:	94	202	435	936

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,473 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,689 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	563
CNEL:	61	130	281	605

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Jeronimo Road to Hughes

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,533 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	770
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Hughes to Morgan
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,451 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.75	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.71	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	753
CNEL:	81	174	376	809

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Morgan to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,439 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,099 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.7	60.0	53.6	52.1	60.6	60.8
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.9	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	315	679
CNEL:	73	157	339	730

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: San Marino to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,151 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,157 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	692
CNEL:	74	160	345	743

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,387 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,177 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.22	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	69.0	68.1	65.0	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	150	323	696
CNEL:	75	161	347	748

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Hospital to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,755 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,125 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.86	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.37	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.33	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.2	69.9	70.5
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	769
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,481 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,020 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.64	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.59	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.55	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.1	61.0	69.6	70.2
Medium Trucks:	63.5	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.6	70.7	67.6	62.9	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	744
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Murphy Avenue to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,087 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.5	51.4	52.7	61.0	61.1
Vehicle Noise:	68.8	67.8	64.8	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	673
CNEL:	72	156	335	723

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Foster to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,532 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,941 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	60.8	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.6	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	645
CNEL:	69	149	321	693

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Fairbanks to Foster

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,575 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,862 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.3	59.5	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	313	674

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Toledo Way to Bertea

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,840 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	613
CNEL:	66	142	306	659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Pacifica to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,780 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,962 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.52	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.72	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.68	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	730
CNEL:	78	169	364	784

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Bertea to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,315 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,758 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Meridian to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,752 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	279	602
CNEL:	65	139	300	647

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Paseo Westpark to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,248 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,753 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	602
CNEL:	65	139	300	647

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Alton Parkway
Road Segment: Harvard Avenue to Paseo Westpark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,161 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,581 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.42	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.4	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	59.9	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.6	66.7	63.6	58.8	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	562
CNEL:	60	130	280	604

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Astor
Road Segment: Lynx to Fairbanks
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.98	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-15.25	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-19.21	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.9	58.2	51.8	50.3	58.8	59.0
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	66.9	66.0	62.4	58.2	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	112	241

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Astor
Road Segment: Cadence to Lynx
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,144 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,249 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.78	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-16.46	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-20.42	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.1	60.3	54.3	62.9	63.5
Medium Trucks:	57.7	57.0	50.6	49.1	57.6	57.8
Heavy Trucks:	60.1	59.6	50.5	51.8	60.1	60.2
Vehicle Noise:	65.7	64.8	61.2	57.0	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	87	188
CNEL:	20	43	93	200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: I-5 NB Off-Ramp to Rockfield Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	98,423	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	8,120	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.69	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-10.55	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-14.51	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.8	73.7	72.0	65.9	74.5	75.1
Medium Trucks:	68.3	67.7	61.3	59.8	68.2	68.5
Heavy Trucks:	68.8	68.2	59.1	60.4	68.7	68.9
Vehicle Noise:	76.5	75.6	72.5	67.7	76.3	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	262	565	1,217	2,621
CNEL:	282	607	1,307	2,816

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Muirlands Boulevard to Jeronimo Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,562 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,244 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.3	62.2	70.8	71.4
Medium Trucks:	64.7	64.0	57.6	56.1	64.5	64.8
Heavy Trucks:	65.1	64.5	55.5	56.7	65.1	65.2
Vehicle Noise:	72.8	71.9	68.8	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	269	580	1,250
CNEL:	134	289	624	1,343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Rockfield Boulevard to Muirlands Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	67,848	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,597	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.07	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.17	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.12	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.1	70.3	64.3	72.9	73.5
Medium Trucks:	66.7	66.1	59.7	58.2	66.6	66.8
Heavy Trucks:	67.1	66.6	57.5	58.8	67.1	67.3
Vehicle Noise:	74.9	73.9	70.9	66.1	74.7	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	205	441	949	2,046
CNEL:	220	474	1,020	2,198

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Jeronimo Road to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,605 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,257 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	64.2	63.6	54.5	55.8	64.2	64.3
Vehicle Noise:	71.9	71.0	67.9	63.1	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	234	505	1,088
CNEL:	117	252	543	1,169

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Toledo Way to Cromwell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,916 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,871 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	220	474	1,021
CNEL:	110	236	509	1,097

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Cromwell to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,418 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,747 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	215	464	999
CNEL:	107	231	498	1,074

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Research Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,328	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,420	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	747
CNEL:	80	173	372	802

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Irvine Center Drive to Research Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,154 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	838 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.18	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-20.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-24.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	56.7	56.0	49.7	48.1	56.6	56.8
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	64.8	63.9	60.9	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	368
CNEL:	40	85	184	396

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bake Parkway
Road Segment: Lake Forest Drive to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,404 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	611 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-21.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-25.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	55.7	55.2	46.1	47.4	55.7	55.8
Vehicle Noise:	63.5	62.5	59.5	54.7	63.3	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	149	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Banting
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,549 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	458 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-21.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-25.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.8	56.7	55.0	48.9	57.5	58.1
Medium Trucks:	52.0	51.3	45.0	43.4	51.9	52.1
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	60.0	59.1	55.7	51.3	59.8	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	132
CNEL:	14	30	65	141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Pacifica to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,249 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,991 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.0	72.1	69.2	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	208	449	967
CNEL:	104	224	483	1,041

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,424 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,675 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.3	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	417	898
CNEL:	97	208	448	966

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: I-5 HOV Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,665 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,777 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.3	70.9	71.5
Medium Trucks:	64.5	63.9	57.5	56.0	64.4	64.7
Heavy Trucks:	64.6	64.0	54.9	56.2	64.6	64.7
Vehicle Noise:	72.7	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	921
CNEL:	99	213	460	991

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,494 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,598 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.3	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.4	71.5	68.6	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	409	881
CNEL:	95	204	440	948

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Irvine Center Drive to I-5 HOV Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,886 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,548 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.2	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	72.4	71.4	68.5	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	404	870
CNEL:	94	202	434	935

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,530 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,354 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.4	67.6	61.5	70.2	70.8
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	63.9	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	72.0	71.1	68.1	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	178	383	825
CNEL:	89	191	412	887

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: East Yale Loop to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,336 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,338 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.6	61.5	70.1	70.7
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	72.0	71.1	68.1	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	821
CNEL:	88	190	410	883

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,246 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,248 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.7	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	371	800
CNEL:	86	185	399	860

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Ada to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,756 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,290 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.5	61.4	70.0	70.7
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	63.7	63.1	54.1	55.4	63.7	63.8
Vehicle Noise:	71.9	71.0	68.0	63.1	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	810
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,599 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,112 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.5	70.6	67.7	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	767
CNEL:	83	178	383	825

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Red Hill Avenue to Armstrong Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,503 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,084 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.29	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.95	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.91	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.0	71.9	70.1	64.1	72.7	73.3
Medium Trucks:	66.4	65.7	59.3	57.8	66.2	66.5
Heavy Trucks:	66.4	65.8	56.8	58.0	66.4	66.5
Vehicle Noise:	74.5	73.6	70.7	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	195	419	903	1,946
CNEL:	209	451	972	2,093

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Discovery/Herchel to Banting
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,817 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,047 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	752
CNEL:	81	174	375	808

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Lyon to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,364 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,010 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	742
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Creek Road to Lyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,971 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,978 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.1	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	71.3	70.3	67.4	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	734
CNEL:	79	170	367	790

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,568 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,512 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.63	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.61	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.56	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.9	68.1	62.0	70.7	71.3
Medium Trucks:	64.3	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	64.3	63.8	54.7	56.0	64.3	64.5
Vehicle Noise:	72.5	71.6	68.6	63.7	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	529	1,139
CNEL:	123	264	569	1,226

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Sand Canyon Avenue to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,968 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,812 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	322	693
CNEL:	75	161	346	745

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Armstrong Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,304 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.37	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.87	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.83	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.2	71.3	68.4	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	236	508	1,094
CNEL:	118	254	546	1,177

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,406 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,683 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.4	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.6	69.6	66.7	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	306	660
CNEL:	71	153	329	710

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Jamboree Road to Construction Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,325 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,667 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	434	935
CNEL:	101	217	467	1,006

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Santa Rosa to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,498 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,599 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	919
CNEL:	99	213	459	988

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: FedEx to Discovery/Herchel

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,158 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,581 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.03	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	294	632
CNEL:	68	147	316	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Jeffrey Road to Valley Oak Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,899 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,559 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.1
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	313	674

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Laguna Canyon Road to FedEx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,534 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	288	620
CNEL:	67	144	310	667

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Pullman Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,853	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,123	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.12	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-15.12	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-19.07	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	69.0	62.9	71.5	72.1
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.4	72.4	69.5	64.6	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	163	351	755	1,627
CNEL:	175	377	812	1,750

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Construction Circle to Fire Station
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,571 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,357 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.90	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	400	861
CNEL:	93	200	430	926

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Fire Station to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,571 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,357 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.90	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	400	861
CNEL:	93	200	430	926

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Paseo Westpark to Santa Rosa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,602 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,360 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	862
CNEL:	93	200	430	927

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Barranca Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,663 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,200 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.1	69.1	66.2	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	822
CNEL:	88	191	411	885

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bay Tree
Road Segment: Trabuco Road to Roosevelt
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,681 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	221 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.6	53.6	51.8	45.8	54.4	55.0
Medium Trucks:	48.9	48.2	41.8	40.3	48.7	49.0
Heavy Trucks:	50.7	50.1	41.1	42.3	50.7	50.8
Vehicle Noise:	56.9	56.0	52.6	48.2	56.7	57.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	38	81
CNEL:	9	19	40	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Beacon
Road Segment: Ridge Valley to Benchmark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,641 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	300 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.41	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-22.65	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-26.61	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.0	55.9	54.1	48.1	56.7	57.3
Medium Trucks:	51.5	50.8	44.4	42.9	51.4	51.6
Heavy Trucks:	53.9	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	59.5	58.6	55.0	50.8	59.3	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	34	73
CNEL:	8	17	36	77

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Benchmark (LN Street)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,729 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	143 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.65	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.84	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.7	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	48.2	47.6	41.2	39.7	48.1	48.4
Heavy Trucks:	50.7	50.1	41.1	42.3	50.7	50.8
Vehicle Noise:	56.2	55.4	51.7	47.6	56.1	56.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	10	21	44
CNEL:	5	10	22	47

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bison Avenue
Road Segment: SR-73 NB Off-Ramp to California Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,146 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	555
CNEL:	59	128	276	595

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bonita Canyon Drive
Road Segment: MacArthur Boulevard to SR-73

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,956 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,554 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.66	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.57	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-19.53	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	731
CNEL:	79	169	364	785

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bonita Canyon Drive
Road Segment: Turtle Ridge to Shady Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,905	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,725	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.04	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.28	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.24	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.7	66.4	67.0
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	562
CNEL:	60	130	281	604

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bonita Canyon Drive
Road Segment: Newport Coast Drive to Turtle Ridge
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,301 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,592 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.39	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.63	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.58	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	59.8	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	60.3	59.7	50.6	51.9	60.2	60.4
Vehicle Noise:	68.0	67.1	64.0	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	248	533
CNEL:	57	123	266	573

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bonita Canyon Drive
Road Segment: SR-73 NB Off-Ramp to Newport Coast Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,474 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,524 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.58	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.82	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.77	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.3	57.2	65.8	66.4
Medium Trucks:	59.7	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.1	59.5	50.4	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.8	59.0	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	240	518
CNEL:	56	120	258	557

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bosque
Road Segment: Cadence to Great Park Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,932 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,067 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.09	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-17.15	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-21.10	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	57.0	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	59.5	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	65.0	64.1	60.5	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	79	169
CNEL:	18	39	84	180

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bosque
Road Segment: Irvine Boulevard to Benchmark (LN Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,882 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	733 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.54	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-18.78	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-22.73	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.8	59.8	58.0	52.0	60.6	61.2
Medium Trucks:	55.4	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	57.8	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	63.4	62.5	58.8	54.7	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	132
CNEL:	14	30	65	140

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bosque
Road Segment: Benchmark to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,107 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	669 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.94	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.18	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.13	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	55.0	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	57.4	56.8	47.8	49.1	57.4	57.5
Vehicle Noise:	63.0	62.1	58.5	54.3	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	27	58	124
CNEL:	13	28	61	132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bosque
Road Segment: Great Park Boulevard to Beacon
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,843 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	152 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.37	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.61	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.56	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	53.0	51.2	45.1	53.8	54.4
Medium Trucks:	48.5	47.9	41.5	39.9	48.4	48.6
Heavy Trucks:	51.0	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	56.5	55.7	52.0	47.8	56.4	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	21	46
CNEL:	5	11	23	49

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bosque
Road Segment: Beacon to S 5th Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,609 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	133 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.96	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-26.20	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-30.15	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.4	52.4	50.6	44.5	53.2	53.8
Medium Trucks:	47.9	47.3	40.9	39.4	47.8	48.0
Heavy Trucks:	50.4	49.8	40.8	42.0	50.4	50.5
Vehicle Noise:	55.9	55.1	51.4	47.2	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Jamboree Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,671 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,870 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	68.8	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	235	506
CNEL:	54	117	252	543

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Market Place to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,480 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,772 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	488
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Rubicon to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,726 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,792 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	492
CNEL:	53	114	245	528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: El Camino Real to Rubicon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,533 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,776 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	489
CNEL:	52	113	243	525

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Eastwood to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,724 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,215 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.5
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	380
CNEL:	41	88	189	407

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Westwood to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,412 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,106 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	357
CNEL:	38	82	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Culver Drive to Westwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,139 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,084 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.4	57.7	51.3	49.8	58.3	58.5
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.4	65.5	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Bryan Avenue
Road Segment: Yale Avenue to Eastwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,268 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,095 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Cadence
Road Segment: Pusan to Chinon
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,074 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	584 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.78	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.02	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-24.97	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.4	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	58.7	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.4	64.5	61.2	56.7	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	179
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Cadence
Road Segment: Bosque to Pusan
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,540 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.12	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-25.31	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	57.0	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.9	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Cadence
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,864 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	401 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.40	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.64	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.60	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.1	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.7	57.0	57.1
Vehicle Noise:	63.7	62.9	59.6	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	69	149

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Cadence
Road Segment: Chinon to Merit
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,333 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	275 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.05	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-24.28	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-28.24	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.3	51.2	59.8	60.4
Medium Trucks:	54.1	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	57.9	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	50	109
CNEL:	12	25	54	116

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Cadence
Road Segment: Merit to Astor
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,688 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	139 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-10.00	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-27.24	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-31.19	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.1	56.1	54.3	48.3	56.9	57.5
Medium Trucks:	51.1	50.5	44.1	42.6	51.0	51.2
Heavy Trucks:	52.4	51.8	42.8	44.1	52.4	52.5
Vehicle Noise:	59.2	58.3	55.0	50.4	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	74

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: California Avenue
Road Segment: University Drive to Academy Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	59.0	58.3	51.9	50.4	58.9	59.1
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.0	66.1	62.8	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	411

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: California Avenue
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,868 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	814 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	63.9	63.0	59.8	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	111	240
CNEL:	26	55	119	257

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: California Avenue
Road Segment: Theory to Bison Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,414 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	777 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	54	115	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Carlson Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,529 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,436 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.46	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-15.78	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-19.74	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.9	64.3	57.9	56.4	64.8	65.1
Heavy Trucks:	65.3	64.8	55.7	57.0	65.3	65.5
Vehicle Noise:	73.1	72.1	69.1	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	360	777
CNEL:	83	180	387	834

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: University Drive to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,673 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	165	355	765
CNEL:	82	177	381	822

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Jamboree Road to Carlson Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,090 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,565 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	744
CNEL:	80	172	371	800

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Stanford Court to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,465 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.8	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	318	685
CNEL:	74	159	342	736

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: California Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,187 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	311	669
CNEL:	72	155	334	719

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Berkeley Avenue to Cornell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,170 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,747 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.7	68.7	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	576
CNEL:	62	133	287	619

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Martin to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,979 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,483 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.2	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	69.0	68.0	65.0	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	240	517
CNEL:	55	120	258	555

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Campus Drive
Job Number: 15937
Road Segment: Culver Drive to Paseo Montoya (Turtle Rock Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,071 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,326 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	60.8	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.6	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	479
CNEL:	52	111	239	515

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Von Karman Avenue to Teller Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,306 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,263 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.1	59.5	53.1	51.5	60.0	60.2
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.3	67.3	64.3	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	464
CNEL:	50	107	231	499

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: MacArthur Boulevard to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,566 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,202 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	208	449
CNEL:	48	104	224	482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Campus Drive
Road Segment: Teller Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,374 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,021 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	67.3	66.4	63.4	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	87	187	403
CNEL:	43	93	201	433

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Carlson Avenue
Road Segment: Michelson Drive to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,352 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,102 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.6
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	67.7	66.7	63.7	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	197	424
CNEL:	46	98	211	455

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Chinon
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,475 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	369 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.73	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-20.96	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-24.92	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.6	54.6	52.8	46.8	55.4	56.0
Medium Trucks:	50.5	49.8	43.5	41.9	50.4	50.6
Heavy Trucks:	53.7	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	58.5	57.7	53.8	49.9	58.4	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	29	63
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Creek Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,892 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	404 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-20.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-24.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.1	52.1	50.3	44.3	52.9	53.5
Medium Trucks:	48.0	47.3	40.9	39.4	47.9	48.1
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	56.0	55.2	51.3	47.4	55.9	56.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	71
CNEL:	8	16	35	76

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,019 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,034 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.3	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.4	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.7	69.8	64.9	73.5	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	154	331	713	1,536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,692 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,925 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.09	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.3	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.6	69.7	64.8	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	303	653	1,407
CNEL:	151	326	703	1,514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,103 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,041 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.3	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.4	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.7	69.8	64.9	73.5	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,429
CNEL:	154	331	714	1,538

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Scottsdale Drive to I-5 SB Off- Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,478	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,907	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.1	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.3	56.8	65.2	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.5	72.6	69.7	64.8	73.3	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	140	302	652	1,404
CNEL:	151	325	701	1,510

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: I-405 NB Off-Ramp to San Leandro

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,681 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,676 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.3	72.4	69.5	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	293	631	1,359
CNEL:	146	315	679	1,462

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: San Leandro to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,972 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,370 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.0	72.1	69.2	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	280	603	1,299
CNEL:	140	301	649	1,398

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Harvard Avenue to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,363 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,402 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	281	606	1,306
CNEL:	140	303	652	1,405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Trabuco Road to Farwell Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,139 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,879 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.06	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.18	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.13	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.4	71.3	69.5	63.5	72.1	72.7
Medium Trucks:	65.7	65.1	58.7	57.2	65.6	65.9
Heavy Trucks:	65.8	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	73.9	73.0	70.1	65.2	73.7	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	306	658	1,418
CNEL:	153	329	708	1,526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,467 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,246 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	127	275	592	1,275
CNEL:	137	295	637	1,371

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Main Street to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,023 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,127 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.7
Vehicle Noise:	72.8	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	269	581	1,251
CNEL:	135	290	625	1,346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Warner Avenue to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,242 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,063 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.3	70.9	71.5
Medium Trucks:	64.5	63.9	57.5	56.0	64.4	64.7
Heavy Trucks:	64.6	64.0	54.9	56.2	64.6	64.7
Vehicle Noise:	72.7	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	124	267	574	1,238
CNEL:	133	287	618	1,332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Walnut Avenue to Scottsdale Dive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,556 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,923 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	561	1,209
CNEL:	130	280	604	1,301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,883 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,950 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.1	70.8	71.4
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.9	54.8	56.1	64.4	64.6
Vehicle Noise:	72.6	71.7	68.7	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	262	564	1,215
CNEL:	131	282	607	1,307

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Shady Canyon Drive to Palo Verde

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,477 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,184 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.5	62.9	53.9	55.2	63.5	63.6
Vehicle Noise:	71.7	70.8	67.8	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	785
CNEL:	84	182	392	844

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Deerfield Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,131 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,641 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,150
CNEL:	124	267	574	1,238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Sandburg Way to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,162 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,643 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,151
CNEL:	124	267	575	1,238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,318 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,574 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.0	63.3	56.9	55.4	63.9	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.2	71.2	68.3	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	527	1,136
CNEL:	122	263	567	1,222

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Palo Verde to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,255 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,001 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	344	740
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: University Drive to Sandburg Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,821 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,368 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	235	507	1,092
CNEL:	118	253	545	1,175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Farwell Avenue to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,846 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,865 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.05	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.19	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.15	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	262	564	1,214
CNEL:	131	281	606	1,306

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Campus Drive to High School

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,099	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,308	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	68.0	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	501	1,079
CNEL:	116	250	539	1,161

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: High School to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,155 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,230 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.9	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,062
CNEL:	114	246	530	1,143

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Bryan Avenue to Florence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,248	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,073	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.19	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.3	62.7	56.3	54.7	63.2	63.4
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	221	477	1,028
CNEL:	111	238	513	1,105

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Portola Parkway to Settlers

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,848 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.8	62.1	55.7	54.2	62.7	62.9
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	71.0	70.0	67.1	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	326	702
CNEL:	76	163	350	755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Florence to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,003 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.6	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	470	1,012
CNEL:	109	235	505	1,088

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Irvine Boulevard to Viewpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,820	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,295	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.2	69.3	66.4	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	182	393	846
CNEL:	91	196	422	910

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Viewpark to Meadowood
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,209 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	70.1	69.2	66.2	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	178	383	824
CNEL:	89	191	412	887

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Settlers to Furrow
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,153 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,003 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.1	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	68.3	67.4	64.4	59.5	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	467
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Culver Drive
Road Segment: Meadowood to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,447 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,604 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	309	666
CNEL:	72	154	333	717

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Discovery Drive
Road Segment: Irvine Center Drive to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,351 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,101 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.5	57.9	48.9	50.2	58.5	58.6
Vehicle Noise:	65.3	64.4	61.1	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	68	146	314

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Discovery Drive
Road Segment: Waterworks Way to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,669 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	715 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.3	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	56.7	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	63.4	62.5	59.2	54.7	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	24	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: East Yale Loop
Road Segment: Alton Parkway to Witherspoon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,632 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,125 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.6	58.0	49.0	50.3	58.6	58.7
Vehicle Noise:	65.3	64.4	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	318

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: East Yale Loop
Road Segment: Osborn Street to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,986 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,071 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	58.4	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	65.1	64.2	61.0	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	134	288
CNEL:	31	66	143	308

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: East Yale Loop
Road Segment: Yale Avenue to Springbrook South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,997 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.7	60.0	53.9	62.5	63.1
Medium Trucks:	56.8	56.1	49.7	48.2	56.6	56.9
Heavy Trucks:	58.1	57.5	48.4	49.7	58.1	58.2
Vehicle Noise:	64.8	63.9	60.6	56.1	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	273
CNEL:	29	63	136	292

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: East Yale Loop
Road Segment: Springbrook North to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,626 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	712 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	56.6	56.1	47.0	48.3	56.6	56.7
Vehicle Noise:	63.4	62.5	59.2	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	23	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: East Yale Loop
Road Segment: Woodspring to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,261 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	599 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	59.5	57.8	51.7	60.3	60.9
Medium Trucks:	54.6	53.9	47.5	46.0	54.5	54.7
Heavy Trucks:	55.9	55.3	46.3	47.5	55.9	56.0
Vehicle Noise:	62.6	61.7	58.4	53.9	62.4	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	42	91	195
CNEL:	21	45	97	209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: East Yale Loop
Road Segment: Barranca Parkway to Eastshore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,685 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	552 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.2	57.4	51.4	60.0	60.6
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	55.5	54.9	45.9	47.2	55.5	55.6
Vehicle Noise:	62.2	61.4	58.1	53.5	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	185
CNEL:	20	43	92	198

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Eastwood
Road Segment: Bryan Avenue to Monticello
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,260 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	269 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.56	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.80	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.76	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.4	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	52.6	51.9	45.6	44.0	52.5	52.7
Heavy Trucks:	54.4	53.9	44.8	46.1	54.4	54.6
Vehicle Noise:	60.6	59.7	56.3	51.9	60.4	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	40	86
CNEL:	9	20	43	92

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Eastwood
Road Segment: Columbus to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,057 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	170 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.56	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-25.80	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-29.76	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.3	53.5	47.5	56.1	56.7
Medium Trucks:	50.6	49.9	43.6	42.0	50.5	50.7
Heavy Trucks:	52.4	51.9	42.8	44.1	52.4	52.6
Vehicle Noise:	58.6	57.7	54.3	49.9	58.4	58.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	29	63
CNEL:	7	15	31	68

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: El Camino Real
Road Segment: Jamboree Road to Alliance (SR-261 Bridge)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,548 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,613 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.9	58.2	51.8	50.3	58.8	59.0
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	66.9	66.0	62.7	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	378
CNEL:	40	87	188	405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: El Camino Real North
Road Segment: El Camino Real to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,459 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	533 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.3	51.2	59.8	60.4
Medium Trucks:	54.1	53.4	47.0	45.5	53.9	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	57.9	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	193

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Fairbanks
Road Segment: Alton Parkway to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,551 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.47	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-16.77	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-20.73	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	68.0
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	69.6	68.7	65.4	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	160	344
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Fairbanks
Road Segment: Irvine Boulevard to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,507 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	784 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.49	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.73	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.69	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.7
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.0
Vehicle Noise:	66.7	65.8	62.5	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	218
CNEL:	23	50	108	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Fairchild Road
Road Segment: MacArthur Boulevard to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,094 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	585 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	55.9	46.9	48.2	56.5	56.6
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Gateway Boulevard
Road Segment: Alton Parkway to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,817 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,387 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-16.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-19.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.7	57.9	51.9	60.5	61.1
Medium Trucks:	55.2	54.6	48.2	46.7	55.1	55.3
Heavy Trucks:	57.7	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	63.2	62.4	58.7	54.6	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	46	100	216
CNEL:	23	50	107	230

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Gateway Boulevard
Road Segment: Spectrum Center Drive (Fortune Drive) to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,537 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,034 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.5	58.4	56.6	50.6	59.2	59.8
Medium Trucks:	54.0	53.3	46.9	45.4	53.8	54.1
Heavy Trucks:	56.4	55.9	46.8	48.1	56.4	56.5
Vehicle Noise:	62.0	61.1	57.5	53.3	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	177
CNEL:	19	41	88	189

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Gateway Boulevard
Road Segment: Irvine Center Drive to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,264 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	517 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-3.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-20.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-24.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.4	53.6	47.6	56.2	56.8
Medium Trucks:	50.9	50.3	43.9	42.4	50.8	51.1
Heavy Trucks:	53.4	52.8	43.8	45.1	53.4	53.5
Vehicle Noise:	59.0	58.1	54.5	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	112
CNEL:	12	26	55	119

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Great Park Boulevard
Road Segment: Sand Canyon to Ridge Valley

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,662 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,767 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.35	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.89	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.84	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.8	63.7	72.3	73.0
Medium Trucks:	66.2	65.5	59.1	57.6	66.1	66.3
Heavy Trucks:	66.6	66.0	57.0	58.2	66.6	66.7
Vehicle Noise:	74.3	73.4	70.3	65.6	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	243	523	1,127
CNEL:	121	261	562	1,211

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Great Park Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,409 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,931 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.8
Medium Trucks:	62.0	61.3	54.9	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	616
CNEL:	66	143	307	662

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Great Park Boulevard (EB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	747 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.68	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-20.92	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-24.87	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.2
Vehicle Noise:	68.9	67.9	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	142	305
CNEL:	33	71	152	328

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Great Park Boulevard (WB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,680 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	634 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.39	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.63	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.58	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.4	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	274
CNEL:	29	63	136	294

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: University Drive to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,172 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,912 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.86	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-16.38	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-20.33	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.7	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	71.8	70.9	67.7	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	223	480
CNEL:	51	111	239	514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Michelson Drive to Coronado
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,339 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,585 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	292	628
CNEL:	67	145	313	674

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: San Marino to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,801 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,459 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.9	61.3	54.9	53.3	61.8	62.0
Heavy Trucks:	62.8	62.2	53.1	54.4	62.8	62.9
Vehicle Noise:	70.0	69.1	65.9	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	607
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Coronado to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,155 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,405 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	61.9
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	599
CNEL:	64	138	298	642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: San Carlo to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,022 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,394 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.84	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.9	69.0	65.8	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	277	597
CNEL:	64	138	297	640

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Main Street to San Carlo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,489 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,350 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.8
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.8	68.9	65.8	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	589
CNEL:	63	136	293	632

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Alton Parkway to San Leon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,284 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,673 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.3	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	218	470
CNEL:	50	109	234	504

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: San Juan to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,554 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,696 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.2	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	68.4	67.5	64.3	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	220	474
CNEL:	51	110	236	509

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: San Leon to San Juan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,663 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.1	60.5	51.4	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,703 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,296 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.3	62.6	56.5	65.1	65.7
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.2	66.3	63.2	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	396
CNEL:	43	92	197	425

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Deerfield Avenue to Poplar Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,436 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,273 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	182	392
CNEL:	42	91	195	420

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,252 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,423 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	196	422
CNEL:	45	97	210	453

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Bridge Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,993 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,402 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	418
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Paseo Westpark to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,907 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,395 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	193	416
CNEL:	45	96	207	446

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Poplar Street to Walnut Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,736 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,133 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.41	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-18.65	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-22.60	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.9	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	182	391
CNEL:	42	90	195	420

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: California Avenue to Berkeley Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,147 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,250 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.98	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	83	180	387
CNEL:	41	89	193	415

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Culver Drive to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,914 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,230 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.8	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	67.0	66.1	62.9	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	178	383
CNEL:	41	88	191	411

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Berkeley to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,559 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,201 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Harvard Avenue
Road Segment: Warner Avenue to Paseo Westpark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,284 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,096 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Hicks Canyon Drive
Road Segment: Delamesa to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,212 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.25	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	75.75	-25.49	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	81.57	-29.44	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	50.0	49.3	43.0	41.4	49.9	50.1
Heavy Trucks:	51.8	51.2	42.2	43.5	51.8	51.9
Vehicle Noise:	58.0	57.1	53.7	49.3	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Hornet (5th St)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,323 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	274 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-5.02	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-22.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-26.21	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.4	53.3	51.5	45.5	54.1	54.7
Medium Trucks:	49.2	48.5	42.2	40.6	49.1	49.3
Heavy Trucks:	52.4	51.8	42.8	44.0	52.4	52.5
Vehicle Noise:	57.2	56.4	52.5	48.6	57.1	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	52
CNEL:	5	12	25	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Hubble
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,420 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	200 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.40	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.63	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.59	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	51.9	50.1	44.1	52.7	53.3
Medium Trucks:	47.8	47.1	40.8	39.2	47.7	47.9
Heavy Trucks:	51.0	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	55.9	55.0	51.1	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	42
CNEL:	4	10	21	44

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: SR-133 NB Off- Ramp to Ridge Valley (O Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,517 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,425 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.71	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.67	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.6	61.5	70.1	70.8
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	63.8	63.2	54.2	55.5	63.8	63.9
Vehicle Noise:	72.0	71.1	68.1	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	238	513	1,105
CNEL:	119	256	552	1,188

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: SR-133 SB Off-Ramp to SR-133 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,382 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.9	71.0	68.1	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	236	508	1,095
CNEL:	118	254	547	1,178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Sand Canyon to SR-133 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,181 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,727 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.89	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.35	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.30	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.1	68.4	62.3	70.9	71.5
Medium Trucks:	64.6	63.9	57.5	56.0	64.5	64.7
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.8	71.8	68.9	64.0	72.6	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	255	550	1,185
CNEL:	128	275	592	1,275

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Merit to Alton
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.3	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,001
CNEL:	108	232	500	1,077

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Journey to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,637 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,023 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.98	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.3	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.4	70.5	67.6	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	219	472	1,016
CNEL:	109	236	507	1,093

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,240	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,660	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.4	62.7	62.8
Vehicle Noise:	70.9	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	433	933
CNEL:	100	216	466	1,004

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Pusan Way to Chinon (B Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,080 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Palo Lado to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,664 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,777 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.2	69.8
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	71.1	70.1	67.2	62.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	446	960
CNEL:	103	223	480	1,033

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Culver Drive to Palo Lado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,323 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,749 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.57	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.67	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	62.8	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	206	443	954
CNEL:	103	221	476	1,026

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,641 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	431	929
CNEL:	100	215	464	999

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Old Myford Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,352 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,669 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	434	935
CNEL:	101	217	467	1,006

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Bosque (LY Street) to Modjeska

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,429 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,675 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.7	62.1	55.7	54.1	62.6	62.8
Heavy Trucks:	62.8	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	435	937
CNEL:	101	217	468	1,008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Jamboree Road to Old Myford Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,680 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,614 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.6	62.0	55.6	54.0	62.5	62.7
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	199	428	922
CNEL:	99	214	461	992

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Market Place to SR-261 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,554 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,603 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	920
CNEL:	99	213	459	990

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Jeffrey Road to Groveland
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,022 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,642 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.40	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	431	929
CNEL:	100	215	464	999

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Bake Parkway to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,197 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,326 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.84	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	396	853
CNEL:	92	198	426	918

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Independence Way (The Groves)/The Groves to JeffreyRoad

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,428 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.7	69.3
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.5	69.6	66.6	61.7	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	408	878
CNEL:	94	204	438	945

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Chinon (B Street) to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: SR-261 NB Off-Ramp to Central Park
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,707 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,368 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	70.4	69.5	66.5	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	401	864
CNEL:	93	200	431	929

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Pueblo Norte to Independence Way (The Groves)/ Parkwood

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,114 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,319 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.83	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.36	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	70.3	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	395	852
CNEL:	92	197	425	916

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Yale Avenue to Pueblo Norte

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,924 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,304 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	394	848
CNEL:	91	197	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Modjeska to Pusan Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,148 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Central Park Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,842 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,049 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.8	68.8	65.9	61.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	784
CNEL:	84	182	392	844

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Parker to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,962 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,894 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.2	60.6	54.2	52.6	61.1	61.3
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	744
CNEL:	80	173	372	801

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Boulevard
Road Segment: Alton Parkway to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,955 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,481 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.3	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	632
CNEL:	68	146	315	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,953 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,451 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.08	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.16	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.12	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	68.0	61.9	70.5	71.1
Medium Trucks:	64.4	63.7	57.3	55.8	64.2	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.5	63.7	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	528	1,137
CNEL:	122	263	567	1,222

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Orange Tree to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,142 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,137 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.76	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.6	63.0	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.5	54.4	55.7	64.0	64.2
Vehicle Noise:	71.8	70.8	67.8	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	495	1,067
CNEL:	115	247	532	1,147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: I-405 SB Off-Ramp to Research

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,016 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.63	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.61	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.57	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.9	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.3	63.7	54.7	56.0	64.3	64.4
Vehicle Noise:	72.0	71.1	68.1	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	493	1,062
CNEL:	114	246	529	1,141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Irvine Valley College to Orange Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,177 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,057 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	64.0	63.4	54.3	55.6	63.9	64.1
Vehicle Noise:	71.7	70.8	67.7	62.9	71.5	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	227	489	1,054
CNEL:	113	244	525	1,132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Fontaine Avenue to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,660 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,849 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.7	63.1	54.1	55.4	63.7	63.8
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	219	472	1,017
CNEL:	109	236	507	1,093

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Culver Drive to Deerwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,919 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,788 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.7	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.4	70.5	67.4	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	217	467	1,007
CNEL:	108	233	502	1,082

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Deerwood to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,516 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,755 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.3	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,001
CNEL:	108	232	499	1,075

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Yale Avenue to Fontaine Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,236 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,814 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.5	70.1
Medium Trucks:	63.3	62.6	56.2	54.7	63.2	63.4
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.4	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	469	1,011
CNEL:	109	234	504	1,087

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Jeffrey Road to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,688 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,687 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.94	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.3	70.3	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	213	459	989
CNEL:	106	229	493	1,062

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Alton Parkway to Spectrum

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,966 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,545 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.6	60.5	69.1	69.7
Medium Trucks:	63.0	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.1	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	447	963
CNEL:	103	223	480	1,035

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Spectrum to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,370 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,496 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	206	443	954
CNEL:	103	221	476	1,025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Hearthstone to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,645 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,271 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	197	424	913
CNEL:	98	211	455	981

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Charter to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,266 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,239 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	907
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Jamboree Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,938 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,965 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	397	855
CNEL:	92	198	426	919

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Pacifica to Entertainment (Enterprise/Fortune)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,251 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,073 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.8	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.5	69.6	66.5	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	406	876
CNEL:	94	203	437	941

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,095 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,060 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.4	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	873
CNEL:	94	202	435	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Harvard Avenue to Hearthstone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,806 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	178	382	824
CNEL:	89	191	411	885

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Research to Hubble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,287 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,581 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.5	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	362	779
CNEL:	84	180	389	837

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Barranca Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,542 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,685 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.9	69.0	65.9	61.1	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	371	800
CNEL:	86	185	399	860

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,258 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,496 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.67	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.63	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.8	54.4	52.9	61.3	61.5
Heavy Trucks:	61.9	61.3	52.2	53.5	61.8	62.0
Vehicle Noise:	69.6	68.6	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	762
CNEL:	82	176	380	819

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Discovery to Charter

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,253 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,743 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.22	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.3	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	70.0	69.1	66.0	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	377	812
CNEL:	87	188	405	872

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,520 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,353 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.7	67.4	68.0
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.3	68.4	65.3	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	340	733
CNEL:	79	170	365	787

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Muller to Tesla

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,303 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,252 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	330	712
CNEL:	76	165	355	765

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Sand Canyon Avenue to Odyssey

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,449 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,265 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.1	61.4	61.5
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	154	332	714
CNEL:	77	165	356	768

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Tesla to Scientific Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,259 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,084 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.6	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.1	60.5	51.4	52.7	61.0	61.2
Vehicle Noise:	68.8	67.9	64.8	60.0	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	314	676
CNEL:	73	156	337	726

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Scientific Way to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,211 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,997 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	305	657
CNEL:	71	152	328	706

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Gateway Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,509 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,022 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.65	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.59	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.6	60.9	61.0
Vehicle Noise:	68.7	67.7	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	307	662
CNEL:	71	153	330	712

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Laguna Canyon Road to Discovery
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,356 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,009 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	306	660
CNEL:	71	153	329	709

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive
Road Segment: Odyssey to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,996 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	60.5	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.6	59.8	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	141	305	657
CNEL:	71	152	327	705

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Irvine Center Drive (Edinger)
Road Segment: Redhill Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,036 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,303 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.6	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	70.8	69.9	66.8	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	919
CNEL:	99	213	458	987

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: I-5 SB Off-Ramp to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,825	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,761	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.1	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	73.3	70.4	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	156	337	725	1,562
CNEL:	168	362	780	1,681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	82,589 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,814 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.51	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-11.73	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-15.68	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.8	72.7	71.0	64.9	73.5	74.1
Medium Trucks:	67.2	66.5	60.2	58.6	67.1	67.3
Heavy Trucks:	67.2	66.6	57.6	58.9	67.2	67.3
Vehicle Noise:	75.4	74.5	71.5	66.6	75.2	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	177	382	823	1,772
CNEL:	191	411	885	1,906

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Walnut Avenue to Michelle Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,520 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,993 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.4	64.8	58.4	56.9	65.3	65.5
Heavy Trucks:	65.5	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.6	72.7	69.7	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	306	659	1,420
CNEL:	153	329	709	1,528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: I-405 NB Off-Ramp to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	82,134 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,776 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.49	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.75	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-15.71	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.2	74.1	72.3	66.3	74.9	75.5
Medium Trucks:	68.6	67.9	61.5	60.0	68.4	68.7
Heavy Trucks:	68.6	68.0	59.0	60.2	68.6	68.7
Vehicle Noise:	76.7	75.8	72.9	68.0	76.5	77.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	273	587	1,266	2,727
CNEL:	293	632	1,362	2,933

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Michelle Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,389	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,652	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.5	65.0	65.2
Heavy Trucks:	65.2	64.6	55.5	56.8	65.1	65.3
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	135	292	629	1,355
CNEL:	146	314	676	1,457

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Main Street to Kelvin Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	71,714 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,916 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.90	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.34	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.30	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.6	73.5	71.7	65.7	74.3	74.9
Medium Trucks:	68.0	67.3	60.9	59.4	67.8	68.1
Heavy Trucks:	68.0	67.4	58.4	59.6	68.0	68.1
Vehicle Noise:	76.1	75.2	72.3	67.4	75.9	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	249	537	1,156	2,491
CNEL:	268	577	1,244	2,680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	88,960	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	7,339	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	130	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	110.0	feet
Centerline Dist. to Observer:	110.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	88.792
Medium Trucks:	88.747
Heavy Trucks:	88.792

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.83	-3.84	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.40	-3.84	-1.20	*-4.96*	0.000	0.000
Heavy Trucks:	86.40	-15.36	-3.84	-1.20	*-5.14*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	66.0	65.3	58.9	57.4	65.8	66.1
Heavy Trucks:	66.0	65.4	56.4	57.6	66.0	66.1
Vehicle Noise:	74.1	73.2	70.3	65.4	73.9	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	434	936	2,016
CNEL:	217	467	1,007	2,169

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Kelvin Avenue to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,488	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,485	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.57	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.67	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.62	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.2	73.2	71.4	65.4	74.0	74.6
Medium Trucks:	67.6	67.0	60.6	59.1	67.5	67.7
Heavy Trucks:	67.7	67.1	58.0	59.3	67.6	67.8
Vehicle Noise:	75.8	74.9	71.9	67.1	75.6	76.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	237	510	1,099	2,368
CNEL:	255	549	1,183	2,548

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,760	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,425	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.52	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.72	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.67	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.2	73.1	71.4	65.3	73.9	74.5
Medium Trucks:	67.6	66.9	60.6	59.0	67.5	67.7
Heavy Trucks:	67.6	67.0	58.0	59.2	67.6	67.7
Vehicle Noise:	75.8	74.8	71.9	67.0	75.6	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	235	507	1,091	2,351
CNEL:	253	545	1,174	2,529

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Birch Street to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,222 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,143 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.4	71.0	71.6
Medium Trucks:	64.6	64.0	57.6	56.0	64.5	64.7
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.1	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	270	582	1,254
CNEL:	135	291	626	1,349

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Dupont Drive to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,292 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,644 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.85	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.39	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.35	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.1	69.3	63.3	71.9	72.5
Medium Trucks:	65.5	64.9	58.5	57.0	65.4	65.6
Heavy Trucks:	65.6	65.0	55.9	57.2	65.5	65.7
Vehicle Noise:	73.7	72.8	69.8	65.0	73.5	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	137	296	637	1,372
CNEL:	148	318	685	1,477

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Alton Parkway to Beckman

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,116 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,960 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.13	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.11	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.06	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.8	72.7	71.0	64.9	73.5	74.1
Medium Trucks:	67.2	66.5	60.2	58.6	67.1	67.3
Heavy Trucks:	67.2	66.6	57.6	58.9	67.2	67.3
Vehicle Noise:	75.4	74.5	71.5	66.6	75.2	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	221	477	1,028	2,215
CNEL:	238	513	1,106	2,382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Fairchild Road to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,524 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,251 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.78	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.73	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.3	72.4	69.5	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	129	279	601	1,294
CNEL:	139	300	646	1,392

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Beckman to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,530 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,581 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.79	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.45	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.41	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.5	72.4	70.6	64.6	73.2	73.8
Medium Trucks:	66.9	66.2	59.8	58.3	66.7	67.0
Heavy Trucks:	66.9	66.3	57.3	58.5	66.9	67.0
Vehicle Noise:	75.0	74.1	71.2	66.3	74.8	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	210	453	975	2,100
CNEL:	226	487	1,049	2,260

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: I-5 NB Off-Ramp to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,710	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,349	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	66.0	59.6	58.0	66.5	66.7
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	942	2,029
CNEL:	218	470	1,013	2,182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Campus Drive to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,220 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,896 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.08	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.16	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.11	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.8	64.1	57.7	56.2	64.6	64.9
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	73.0	72.0	69.1	64.2	72.8	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	263	567	1,221
CNEL:	131	283	610	1,313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: El Camino Real to West Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,741 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,186 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.40	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.84	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.80	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.2	64.2	72.8	73.4
Medium Trucks:	66.5	65.8	59.4	57.9	66.3	66.6
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.6	73.7	70.8	65.9	74.4	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	198	426	918	1,978
CNEL:	213	458	988	2,128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: West Drive to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,973 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,205 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.42	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.82	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.78	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	66.5	65.8	59.4	57.9	66.4	66.6
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.7	73.7	70.8	65.9	74.5	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	198	427	921	1,984
CNEL:	213	460	991	2,134

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Bryan Avenue to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,016	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,879	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.06	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.17	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.13	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.7	69.9	63.9	72.5	73.1
Medium Trucks:	66.1	65.5	59.1	57.5	66.0	66.2
Heavy Trucks:	66.2	65.6	56.5	57.8	66.1	66.3
Vehicle Noise:	74.3	73.4	70.4	65.6	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	188	405	873	1,880
CNEL:	202	436	939	2,022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Koll Center to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,783 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,612 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.76	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.48	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.44	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.4	63.8	57.4	55.9	64.3	64.6
Heavy Trucks:	64.5	63.9	54.8	56.1	64.5	64.6
Vehicle Noise:	72.6	71.7	68.7	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	116	250	539	1,161
CNEL:	125	269	580	1,249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: MacArthur Boulevard to Koll Center

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,209 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,565 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.70	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.54	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.50	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.3	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,151
CNEL:	124	267	575	1,238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Irvine Boulevard to Portola Pakway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,386 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.2	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	62.3	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	934

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Warner Avenue to Edinger Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	87,609 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,228 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.77	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-11.47	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-15.43	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	77.3	76.3	74.5	68.4	77.1	77.7
Medium Trucks:	70.7	70.0	63.7	62.1	70.6	70.8
Heavy Trucks:	70.7	70.1	61.1	62.4	70.7	70.8
Vehicle Noise:	78.9	78.0	75.0	70.1	78.7	79.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	243	523	1,128	2,430
CNEL:	261	563	1,213	2,614

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	72,728 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,000 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.96	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.28	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.24	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.5	75.4	73.7	67.6	76.2	76.8
Medium Trucks:	69.9	69.2	62.9	61.3	69.8	70.0
Heavy Trucks:	69.9	69.3	60.3	61.6	69.9	70.0
Vehicle Noise:	78.1	77.2	74.2	69.3	77.9	78.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	215	462	996	2,146
CNEL:	231	497	1,072	2,309

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jamboree Road
Road Segment: Edinger Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,731 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,505 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.59	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.65	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.61	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.1	75.1	73.3	67.2	75.9	76.5
Medium Trucks:	69.5	68.9	62.5	61.0	69.4	69.6
Heavy Trucks:	69.6	69.0	59.9	61.2	69.5	69.7
Vehicle Noise:	77.7	76.8	73.8	69.0	77.5	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	941	2,027
CNEL:	218	470	1,012	2,180

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Walnut Avenue to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,825 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,688 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.76	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	63.1	62.4	56.0	54.5	63.0	63.2
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.2	70.2	67.1	62.4	71.0	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	210	452	974
CNEL:	104	225	485	1,045

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: I-5 NB Off-Ramp to Roosevelt
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,919 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,273 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.27	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-11.97	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-15.92	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.8	64.3	55.2	56.5	64.8	65.0
Vehicle Noise:	72.1	71.2	68.0	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	496	1,069
CNEL:	115	247	532	1,146

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Poplar (Meadows) to Walnut Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,048 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,211 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.5	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	70.7	69.8	66.6	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	907
CNEL:	97	210	452	973

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,925 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,201 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.4	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	420	905
CNEL:	97	209	451	971

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Irvine Center Drive to Poplar (Meadows)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,837 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,029 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.09	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	70.5	69.6	66.4	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	409	880
CNEL:	94	203	438	944

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: I-405 NB Off-Ramp to Quail Creek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,159 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,221 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.5	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	70.7	69.8	66.6	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	422	908
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Barranca Parkway to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,058 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,965 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.16	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	404	871
CNEL:	93	201	434	934

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Quail Creek to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,376 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,073 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.1
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	191	412	887
CNEL:	95	205	442	951

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Irvine Valley College to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,568 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,759 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	63.0	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.2	69.3	66.1	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	841
CNEL:	90	194	419	902

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Trabuco Road to Hideaway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,141 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,147 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	747
CNEL:	80	173	372	801

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Hideaway to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,123 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,145 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	346	746
CNEL:	80	173	372	801

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Roosevelt to Grove

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,043 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,386 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.35	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.89	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.85	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.2	69.2	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	171	369	795
CNEL:	85	184	396	853

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Grove to Trabuco Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,887 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,208 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.11	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.13	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.08	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	767
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Bryan Avenue to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,374 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,423 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.1	60.5	51.4	52.7	61.0	61.2
Vehicle Noise:	68.3	67.4	64.2	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	312	673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Encore to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,548 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,200 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.2	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	182	393
CNEL:	42	91	196	421

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeffrey Road
Road Segment: Irvine Boulevard to Encore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,094 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,163 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.0	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	57.9	57.3	48.2	49.5	57.8	58.0
Vehicle Noise:	65.1	64.2	61.0	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	412

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeronimo Road
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,085 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	667 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	56.3	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	64.3	63.4	60.3	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	55	118	255
CNEL:	27	59	127	273

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Jeronimo Road
Road Segment: Alton Parkway to Goodyear

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,560 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	624 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.4	53.3	62.0	62.6
Medium Trucks:	56.0	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.0	63.1	60.0	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	261

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Old Laguna Canyon Road to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,702 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,430 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.64	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.60	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.55	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.6	71.3	71.9
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	64.9	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	73.1	72.2	69.2	64.3	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	283	609	1,311
CNEL:	141	304	655	1,411

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Laguna Canyon Freeway to Quail Hill Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,770 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,384 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	69.7	68.8	65.8	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	269	579
CNEL:	62	134	289	623

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Discovery to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,177 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,252 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.08	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.1	60.4	54.0	52.5	61.0	61.2
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	69.3	68.3	65.4	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	251	541
CNEL:	58	125	270	583

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: I-405 Overcrossing to Pasteur

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,634 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	712 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.88	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.12	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.08	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Irvine Center Drive to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,313 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,098 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	230	496
CNEL:	53	115	248	534

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Quail Hill Parkway to I-405 Overcrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,634 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	712 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.88	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.12	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.08	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Pasteur to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,608 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	58.6	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	66.8	65.9	62.9	58.0	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	371
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Waterworks to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,469 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	781 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.1
Heavy Trucks:	59.1	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	67.2	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	183	395
CNEL:	43	92	197	425

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,308 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	603 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	57.9	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	57.9	57.3	48.3	49.6	57.9	58.0
Vehicle Noise:	66.1	65.2	62.2	57.3	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	154	333
CNEL:	36	77	166	358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Laguna Canyon Road
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,148 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	590 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	57.8	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	57.8	57.3	48.2	49.5	57.8	57.9
Vehicle Noise:	66.0	65.1	62.1	57.2	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	152	328
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Lake Forest Drive
Road Segment: Hidden Canyon to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,601 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.3	68.4	65.3	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	544
CNEL:	58	126	271	584

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Lake Forest Drive
Road Segment: Bake Parkway to Hidden Canyon (Romano)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,213	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,585	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.5	60.9	51.9	53.2	61.5	61.6
Vehicle Noise:	69.2	68.3	65.3	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	251	540
CNEL:	58	125	269	580

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Lake Forest Drive
Road Segment: Tesla to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,514 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,197 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.2	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	58.7	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	66.4	65.5	62.4	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	467
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Lake Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,204 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	512 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.31	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	70.80	-19.55	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	77.97	-23.50	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.1	55.1	53.3	47.3	55.9	56.5
Medium Trucks:	51.0	50.3	43.9	42.4	50.9	51.1
Heavy Trucks:	54.2	53.6	44.6	45.8	54.2	54.3
Vehicle Noise:	59.0	58.2	54.3	50.4	58.9	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	45	96

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Lynx
Road Segment: Irvine Boulevard to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,244 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	103 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-9.28	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-26.52	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-30.48	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.1	49.0	47.3	41.2	49.8	50.4
Medium Trucks:	44.9	44.3	37.9	36.3	44.8	45.0
Heavy Trucks:	48.1	47.5	38.5	39.8	48.1	48.2
Vehicle Noise:	53.0	52.1	48.2	44.3	52.8	53.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	12	27
CNEL:	3	6	13	28

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: I-405 SB Off-Ramp to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,587 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,163 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.93	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.31	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.27	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.0	74.0	72.2	66.2	74.8	75.4
Medium Trucks:	68.3	67.6	61.2	59.7	68.2	68.4
Heavy Trucks:	68.0	67.4	58.3	59.6	67.9	68.1
Vehicle Noise:	76.5	75.6	72.7	67.8	76.3	76.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	264	568	1,223	2,636
CNEL:	284	612	1,318	2,839

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Main Street to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,233	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,052	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.83	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.40	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.36	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.9	73.9	72.1	66.1	74.7	75.3
Medium Trucks:	68.2	67.5	61.1	59.6	68.1	68.3
Heavy Trucks:	67.9	67.3	58.2	59.5	67.8	68.0
Vehicle Noise:	76.4	75.5	72.6	67.7	76.2	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	260	560	1,206	2,598
CNEL:	280	603	1,299	2,798

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: I-405 NB Off-Ramp and I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,411 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,984 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.78	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.46	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.42	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.9	73.8	72.1	66.0	74.6	75.2
Medium Trucks:	68.1	67.4	61.1	59.5	68.0	68.2
Heavy Trucks:	67.8	67.2	58.2	59.4	67.8	67.9
Vehicle Noise:	76.4	75.4	72.6	67.6	76.2	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	257	555	1,195	2,574
CNEL:	277	597	1,287	2,773

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Jamboree Road to Fairchild Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,283 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.6
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	357	768
CNEL:	82	178	382	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Fairchild Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,243 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,238 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.5	68.6	65.5	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	353	761
CNEL:	82	176	379	816

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Fitch to Red Hill Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,124 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,475 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.46	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.78	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.74	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.3	69.4	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	187	403	868

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Michelson Drive to Douglas

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,388 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,827 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.88	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.36	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.32	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.8	64.2	55.2	56.5	64.8	64.9
Vehicle Noise:	72.1	71.2	68.0	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	133	287	619	1,333
CNEL:	143	308	664	1,430

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Douglas to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,645 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,766 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.81	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.43	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.39	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.9	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.0	71.1	67.9	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	132	284	612	1,318
CNEL:	141	305	656	1,414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Skypark to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,482 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,762 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.46	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.78	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.73	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	69.3	68.4	65.2	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	150	322	694
CNEL:	74	160	346	745

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Redhill Avenue to Skypark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,170 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,324 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.4	53.0	51.5	59.9	60.1
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.1	67.2	64.1	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	610
CNEL:	65	141	304	654

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Birch Street to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,485 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,773 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.53	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.70	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.66	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	236	509
CNEL:	55	118	254	546

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: MacArthur Boulevard
Road Segment: Campus Drive to Birch Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,205 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,997 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.05	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-16.19	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-20.14	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	401	864
CNEL:	93	200	430	927

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Gillette Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,084 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,802 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.85	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.39	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.35	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.7	69.7	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	859
CNEL:	92	199	428	922

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: MacArthur Boulevard to Mercantile

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,229 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,319 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.26	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.98	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.94	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.8	62.2	53.2	54.5	62.8	62.9
Vehicle Noise:	70.1	69.2	66.0	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	785
CNEL:	84	181	391	842

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Executive Park to MacArthur Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,777 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,374 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.2	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Von Karman Avenue to Cartwright

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,808 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,377 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.5	53.1	51.5	60.0	60.2
Heavy Trucks:	61.0	60.4	51.3	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: McDurmott to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,518 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,188 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.8	66.4
Medium Trucks:	59.8	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	586
CNEL:	63	135	292	629

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Red Hill Avenue to Executive Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,974 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,143 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.36	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.7	59.0	52.6	51.1	59.6	59.8
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.8	66.8	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	268	578
CNEL:	62	134	288	620

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Jamboree Road to Union
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,073 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.22	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.6
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	262	565
CNEL:	61	131	282	606

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,660 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,209 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	378
CNEL:	41	87	188	406

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Siglo to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,322 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,007 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.16	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	60.2	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	67.5	66.6	63.4	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	553
CNEL:	59	128	275	593

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Veneto to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,421 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,932 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.28	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.2	58.6	52.2	50.6	59.1	59.3
Heavy Trucks:	60.1	59.5	50.4	51.7	60.1	60.2
Vehicle Noise:	67.3	66.4	63.3	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	250	539
CNEL:	58	125	269	579

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Paseo Westpark to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,129 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,001 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.95	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.4	57.9	58.1
Heavy Trucks:	58.9	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	66.1	65.2	62.0	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Main Street
Road Segment: Harvard Avenue to San Mateo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,988 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	989 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.1	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Marine Way
Job Number: 15937
Road Segment: Sand Canyon Avenue to Ridge Valley (O Street)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,977 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,381 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.85	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	77.72	-13.39	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	82.99	-17.34	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	64.0	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	65.4	64.8	55.7	57.0	65.3	65.5
Vehicle Noise:	72.1	71.2	67.9	63.4	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	668
CNEL:	72	154	332	716

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: Alton Parkway to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,132 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,733 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	69.2	68.3	65.0	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	537
CNEL:	58	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: Lynx to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,174 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,654 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	61.0	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	69.1	68.2	64.9	60.4	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	245	527
CNEL:	56	122	262	564

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: County Access to Treble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,186 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	68.2	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	463
CNEL:	50	107	230	496

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: Ridge Valley (O Street) to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,478 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,102 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.0	59.4	53.0	51.4	59.9	60.1
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.4
Vehicle Noise:	68.1	67.2	63.9	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	451
CNEL:	48	104	224	483

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: Skyhawk to County Access

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,553 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,696 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.1	66.2	63.0	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	391
CNEL:	42	90	194	418

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,922 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,479 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	357
CNEL:	38	82	177	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Marine Way
Road Segment: Treble to Lynx
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,993 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,402 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.3	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.3	65.4	62.1	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	160	344
CNEL:	37	79	171	369

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: McGaw Avenue
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,638 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,208 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	61.0	59.2	53.1	61.8	62.4
Medium Trucks:	56.2	55.6	49.2	47.7	56.1	56.3
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	64.2	63.4	59.9	55.5	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	251
CNEL:	27	58	125	268

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: McGaw Avenue
Road Segment: Red Hill Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,434 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,191 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	56.2	55.5	49.1	47.6	56.1	56.3
Heavy Trucks:	58.0	57.4	48.4	49.7	58.0	58.1
Vehicle Noise:	64.2	63.3	59.9	55.5	64.0	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	115	249
CNEL:	27	57	123	266

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: McGaw Avenue
Road Segment: Daimler to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,107 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	751 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.2	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	56.0	55.4	46.4	47.7	56.0	56.1
Vehicle Noise:	62.2	61.3	57.9	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: McGaw Avenue
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,648 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	383 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-22.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-26.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.0	56.0	54.2	48.1	56.8	57.4
Medium Trucks:	51.3	50.6	44.2	42.7	51.1	51.4
Heavy Trucks:	53.1	52.5	43.5	44.7	53.1	53.2
Vehicle Noise:	59.3	58.4	54.9	50.6	59.1	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	54	117
CNEL:	12	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Meadowood
Road Segment: Culver Drive to Canyonwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,668 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	880 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.5	55.5	53.7	47.7	56.3	56.9
Medium Trucks:	51.4	50.7	44.3	42.8	51.2	51.5
Heavy Trucks:	54.6	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	59.4	58.6	54.7	50.8	59.3	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	120
CNEL:	13	27	59	128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Meridian
Road Segment: Spectrum to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,808 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	232 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-6.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-23.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-27.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	51.9	50.1	44.1	52.7	53.3
Medium Trucks:	47.5	46.8	40.4	38.9	47.3	47.6
Heavy Trucks:	49.9	49.4	40.3	41.6	49.9	50.0
Vehicle Noise:	55.5	54.6	51.0	46.8	55.3	55.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	14	30	65
CNEL:	7	15	32	70

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Meridian
Road Segment: Alton Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,259 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	186 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.0	51.0	49.2	43.1	51.8	52.4
Medium Trucks:	46.5	45.8	39.5	37.9	46.4	46.6
Heavy Trucks:	49.0	48.4	39.4	40.6	49.0	49.1
Vehicle Noise:	54.5	53.7	50.0	45.8	54.4	54.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	57
CNEL:	6	13	28	60

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Merit
Road Segment: Irvine Boulevard to Cadence
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,772 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	311 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.47	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-21.71	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-25.66	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.9	53.8	52.1	46.0	54.6	55.2
Medium Trucks:	49.7	49.1	42.7	41.2	49.6	49.9
Heavy Trucks:	52.9	52.4	43.3	44.6	52.9	53.1
Vehicle Noise:	57.8	56.9	53.0	49.1	57.6	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	60

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Riparian to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,376 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,094 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	68.0	67.1	63.9	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	450
CNEL:	48	104	224	482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Almond Tree Lane to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	838 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.21	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.44	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.40	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.9	58.3	51.9	50.3	58.8	59.0
Heavy Trucks:	60.2	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	66.9	66.1	62.8	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	228
CNEL:	24	53	113	244

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Von Karman Avenue to Obsidian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,498 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,021 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.9	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	61.2	60.6	51.5	52.8	61.2	61.3
Vehicle Noise:	67.9	67.0	63.7	59.2	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	204	439
CNEL:	47	101	218	470

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Parkside to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,511 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,857 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.6	65.3	65.9
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	67.5	66.6	63.4	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	89	193	415
CNEL:	44	96	206	445

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Gillman to Seton/Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,500 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	784 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.50	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.74	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.69	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.7
Heavy Trucks:	59.9	59.3	50.3	51.6	59.9	60.0
Vehicle Noise:	66.7	65.8	62.5	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	218
CNEL:	23	50	108	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Carlson to Prince

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,204 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,244 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.07	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	77.72	-15.17	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	82.99	-19.12	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	60.3	59.8	50.7	52.0	60.3	60.4
Vehicle Noise:	67.1	66.2	62.9	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	464
CNEL:	50	107	231	497

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: MacArthur Boulevard to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,112 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,742 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.5	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	67.2	66.3	63.1	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	185	398
CNEL:	43	92	198	426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Harvard Avenue to Parkside

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,076 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,491 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.5	57.9	51.5	50.0	58.4	58.6
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	66.6	65.7	62.4	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	359
CNEL:	38	83	178	384

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Bixby to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,256 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,506 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.6	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	66.6	65.7	62.4	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	361
CNEL:	39	83	179	387

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Jamboree Road to Carlson

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,363 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,092 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.77	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.47	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.43	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.3	68.4	65.2	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	527
CNEL:	56	122	262	564

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Teller to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,464 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,101 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.78	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.45	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.41	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.3	60.7	54.3	52.7	61.2	61.4
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.7
Vehicle Noise:	69.4	68.5	65.2	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	528
CNEL:	57	122	263	566

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Jordan East to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,991 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	577 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.83	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-21.07	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-25.02	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.8	65.9	62.6	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	179
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Michelson Drive
Road Segment: Culver Drive to Angell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,947 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	738 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.76	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.00	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	82.99	-23.95	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.0	61.2	55.1	63.8	64.4
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.0	65.1	61.9	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	98	211
CNEL:	23	49	105	226

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Modjeska (A Street)
Road Segment: Portola Springs to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,789 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,138 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	27.659
Medium Trucks:	27.514
Heavy Trucks:	27.659

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.39	3.75	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	79.45	-18.63	3.79	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	84.25	-22.59	3.75	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.7	69.4	70.0
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.5	70.6	67.4	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	79	169	365
CNEL:	39	84	182	391

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Modjeska (A Street)
Road Segment: South of Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,833 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	151 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.15	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-27.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-31.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.9	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	52.7	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	53.5	53.0	43.9	45.2	53.5	53.6
Vehicle Noise:	60.8	59.9	56.7	52.0	60.6	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	88
CNEL:	9	20	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Muirlands Boulevard
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,023 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,239 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	59.0	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.0	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	179	385
CNEL:	41	89	192	413

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Muirlands Boulevard
Road Segment: Alton Parkway to Sterling
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,701 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	965 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.3	55.2	63.8	64.5
Medium Trucks:	57.9	57.2	50.8	49.3	57.8	58.0
Heavy Trucks:	58.7	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	70	151	326
CNEL:	35	75	162	349

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Muirlands Boulevard
Road Segment: Wrigley to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Newport Coast Drive
Road Segment: SR-73 NB Off-Ramp to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,365 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,433 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	58.4	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.4	65.5	62.2	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	349
CNEL:	37	81	174	374

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Newport Coast Drive
Road Segment: Turtle Crest to Bonita Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,158 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,003 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	58.1	57.5	48.5	49.8	58.1	58.2
Vehicle Noise:	64.8	64.0	60.7	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	59	128	275
CNEL:	29	64	137	295

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Nightmist
Road Segment: Sand Canyon Avenue to Tulip (Road C)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,178 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	922 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	53.5	52.8	46.4	44.9	53.3	53.6
Heavy Trucks:	55.9	55.4	46.3	47.6	55.9	56.0
Vehicle Noise:	61.5	60.6	57.0	52.8	61.3	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	76	164
CNEL:	18	38	81	175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Northwood
Road Segment: Yale Avenue to Savannah

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,798 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	396 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.88	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-22.12	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.08	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.3	53.6	47.2	45.7	54.2	54.4
Heavy Trucks:	56.1	55.5	46.5	47.8	56.1	56.2
Vehicle Noise:	62.3	61.4	58.0	53.6	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	111
CNEL:	12	26	55	119

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Northwood
Road Segment: Goldrush to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,833 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	316 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.86	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.10	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.05	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.1	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	53.3	52.6	46.3	44.7	53.2	53.4
Heavy Trucks:	55.1	54.6	45.5	46.8	55.1	55.3
Vehicle Noise:	61.3	60.4	57.0	52.6	61.1	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	45	96
CNEL:	10	22	48	103

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Oak Canyon Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,331 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,100 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.54	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.78	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-22.73	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.7	61.2	61.4
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.4	68.5	65.3	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	332
CNEL:	36	77	165	356

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Pacifica
Road Segment: Gateway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,784 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,055 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.0	56.4	50.0	48.5	56.9	57.1
Heavy Trucks:	58.3	57.8	48.7	50.0	58.3	58.5
Vehicle Noise:	65.1	64.2	60.9	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	285
CNEL:	30	66	142	305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Pacifica
Road Segment: Alton Parkway to Gateway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,769 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	806 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.9	55.2	48.8	47.3	55.7	56.0
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	63.9	63.0	59.7	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	238
CNEL:	25	55	118	255

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Pacifica
Job Number: 15937
Road Segment: Irvine Center Drive to Fortune Drive (Spectrum Center Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,054 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	582 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	54.4	53.8	47.4	45.9	54.3	54.6
Heavy Trucks:	55.8	55.2	46.1	47.4	55.7	55.9
Vehicle Noise:	62.5	61.6	58.3	53.8	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	192
CNEL:	21	44	95	205

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Pacifica
Road Segment: Meridian to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,576 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	377 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-22.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.6	57.5	55.8	49.7	58.3	58.9
Medium Trucks:	52.6	51.9	45.5	44.0	52.5	52.7
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	60.6	59.7	56.4	51.9	60.4	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	31	67	144
CNEL:	15	33	71	154

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Park Place
Road Segment: Christamon South to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,737 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	308 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.2	53.1	51.4	45.3	53.9	54.5
Medium Trucks:	48.7	48.0	41.7	40.1	48.6	48.8
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	56.7	55.8	52.2	48.0	56.5	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	84

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Portola Parkway
Job Number: 15937
Road Segment: Bee Canyon Access Road to Sand Canyon Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,814 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,130 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.6	70.6	67.7	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	772
CNEL:	83	179	385	830

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Jeffrey Road to Bee Canyon Access Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,724 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,122 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.4	62.7	56.3	54.8	63.3	63.5
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.6	70.6	67.7	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	770
CNEL:	83	178	384	828

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Arrowhead to Ridge Valley Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,934 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,975 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.1	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	71.2	70.3	67.4	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	340	734
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Sand Canyon Avenue to Arrowhead

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,926 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,809 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	692
CNEL:	74	160	346	744

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Portola Springs to SR-241 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,392 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,435 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.7	61.0	54.6	53.1	61.6	61.8
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.9	68.9	66.0	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	593
CNEL:	64	137	296	638

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Gatepark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,092 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,483 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.4
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.4	61.8	52.8	54.1	62.4	62.5
Vehicle Noise:	70.6	69.7	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	414	891
CNEL:	96	207	445	959

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: ETC-6 (SR-261) NB Off-Ramp to Gatepark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,669 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,448 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.4	61.8	52.7	54.0	62.4	62.5
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	883
CNEL:	95	205	441	950

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,810 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,377 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	70.4	69.5	66.5	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	402	866
CNEL:	93	201	432	931

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Jamboree Road to Bellevue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,532 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,354 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.90	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	860
CNEL:	93	199	430	925

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Bellevue to ETC-6 (SR-261) SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,239 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,330 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.5	62.0	62.2
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	397	854
CNEL:	92	198	427	919

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Yale Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,234 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	831
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Culver Drive to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,470 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,936 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.19	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	351	755
CNEL:	81	175	377	812

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Portola Parkway
Road Segment: Silverado to Portola Springs

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,381 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,021 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	60.2	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	68.4	67.5	64.5	59.6	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	473
CNEL:	51	110	236	509

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Pusan
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,449 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	202 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.34	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.58	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.54	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	52.0	50.2	44.1	52.8	53.4
Medium Trucks:	47.9	47.2	40.8	39.3	47.7	48.0
Heavy Trucks:	51.1	50.5	41.4	42.7	51.1	51.2
Vehicle Noise:	55.9	55.1	51.2	47.2	55.8	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Quail Hill Parkway
Road Segment: Shady Canyon Drive to Passage
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,772 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,301 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.3	62.6	56.5	65.1	65.8
Medium Trucks:	59.2	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.2	66.3	63.2	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	184	397
CNEL:	43	92	198	426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Quail Hill Parkway
Road Segment: East Knollcrest to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,762 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	805 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	57.1	56.4	50.0	48.5	57.0	57.2
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.2	64.3	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	134	289
CNEL:	31	67	144	310

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Quassar Drive (Spectrum)
Road Segment: Irvine Center Drive to Spectrum Center Drive (Fortune)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,051 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	169 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.11	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.35	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	77.97	-28.31	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.9	50.8	49.1	43.0	51.6	52.2
Medium Trucks:	46.7	46.1	39.7	38.1	46.6	46.8
Heavy Trucks:	49.9	49.3	40.3	41.6	49.9	50.0
Vehicle Noise:	54.8	53.9	50.0	46.1	54.6	55.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	38
CNEL:	4	9	19	40

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: MacArthur Boulevard to McGaw Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,998	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,795	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.3	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.7	63.1	54.0	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.4	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	217	468	1,008
CNEL:	108	233	503	1,083

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: I-405 Over Crossing to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,980 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,896 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	608
CNEL:	65	141	303	654

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: Alton Parkway to Deere Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,372 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,671 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.1	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.9	68.9	65.9	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	370	797
CNEL:	86	185	398	857

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: McGaw Avenue to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,871 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,629 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.7	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.8	68.9	65.8	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	848

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: Deere Avenue to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,440 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,511 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.5	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.6	60.8	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	355	765
CNEL:	82	177	382	822

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: Skypark East to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,863 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.29	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.94	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.90	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.2	63.5	63.6
Vehicle Noise:	71.2	70.3	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	152	327	705
CNEL:	76	163	352	757

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Red Hill Avenue
Road Segment: Main Street to Skypark East
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,603 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,617 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.32	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.56	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.52	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	298	641
CNEL:	69	148	320	689

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Research Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,138 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.7	61.2	61.4
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.4	68.5	65.3	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	553
CNEL:	59	128	276	594

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Research Drive
Road Segment: Scientific to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,713 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,379 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	60.3	59.7	50.6	51.9	60.2	60.4
Vehicle Noise:	67.5	66.6	63.4	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	413
CNEL:	44	95	206	443

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Research Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,105 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	177	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Research Drive
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,553 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	871 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.3	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.5	64.6	61.4	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	304
CNEL:	33	70	151	326

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Irvine Boulevard to Trabuco Road (Great Park Boulevard)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,991 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,237 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	58.9	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.0	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	412

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ridge Valley (O Street)
Road Segment: Portola Parkway to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,229 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,009 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.1	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	335
CNEL:	36	78	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ridge Valley (O Street)
Road Segment: Trabuco Road (Great Park Boulevard) to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	918 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ridge Valley (O Street)
Road Segment: Ranchland to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	931 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	77 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-13.10	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-30.33	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-34.29	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	54.9	53.2	47.1	55.7	56.3
Medium Trucks:	49.8	49.1	42.7	41.2	49.6	49.9
Heavy Trucks:	50.6	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	57.8	56.9	53.8	49.1	57.6	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	60

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ridgeline Drive
Road Segment: Concordia East to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,267 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,342 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.42	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-16.82	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-20.78	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.6
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	68.5	67.6	64.2	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	71	154	331

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Ridgeline Drive
Road Segment: Turtle Rock Drive to San Simeon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,253 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.12	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.12	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.07	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	62.1	61.5	52.4	53.7	62.1	62.2
Vehicle Noise:	68.2	67.3	63.9	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	296
CNEL:	32	68	147	317

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Rockfield Avenue
Road Segment: Whatney to McLaren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,792 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,385 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	414
CNEL:	44	96	206	444

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Rockfield Avenue
Road Segment: Bake Parkway to Whatney

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,636 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	630 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.3	61.2	59.4	53.4	62.0	62.6
Medium Trucks:	56.0	55.3	49.0	47.4	55.9	56.1
Heavy Trucks:	56.9	56.3	47.2	48.5	56.8	57.0
Vehicle Noise:	64.1	63.2	60.0	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	53	114	245
CNEL:	26	57	122	263

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Rockfield Avenue
Road Segment: Thomas to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	478 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.8	54.1	47.8	46.2	54.7	54.9
Heavy Trucks:	55.7	55.1	46.0	47.3	55.6	55.8
Vehicle Noise:	62.9	62.0	58.8	54.2	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	204
CNEL:	22	47	101	219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Roosevelt
Road Segment: Jeffrey Road to Vision

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,577 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,450 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	66.4	65.6	62.3	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Roosevelt
Road Segment: Yale Avenue to Van Buren
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,343 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	771 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.57	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-19.81	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-23.76	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.1	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.1	67.2	63.9	59.4	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	217
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Roosevelt
Road Segment: Vision to Bay Tree
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,893 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,394 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.2	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	66.3	65.4	62.1	57.6	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	343
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Roosevelt
Road Segment: Nimitz to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,604 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,205 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.3	49.3	50.6	58.9	59.0
Vehicle Noise:	65.6	64.7	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	311
CNEL:	33	72	155	333

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Roosevelt
Road Segment: Tulip (Road C) to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,013 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,156 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.4	56.8	50.4	48.9	57.3	57.5
Heavy Trucks:	58.7	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	65.5	64.6	61.3	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	32	70	150	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Royal Oak
Road Segment: Alton Parkway to Eaglecreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	398 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.86	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	75.75	-22.09	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	81.57	-26.05	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	63.8	62.9	59.5	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Oak Canyon Drive to Burt Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,249 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,311 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.8	63.1	56.8	55.2	63.7	63.9
Heavy Trucks:	64.2	63.6	54.6	55.9	64.2	64.3
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	236	509	1,097
CNEL:	118	254	547	1,179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Irvine Center Drive to Oak Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,129 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,136 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.76	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.6	63.0	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.5	54.4	55.7	64.0	64.2
Vehicle Noise:	71.8	70.8	67.8	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	495	1,067
CNEL:	115	247	532	1,147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-405 NB Off-Ramp to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,785 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,860 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.46	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.78	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.74	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.7	69.9	63.8	72.5	73.1
Medium Trucks:	66.3	65.6	59.3	57.7	66.2	66.4
Heavy Trucks:	66.7	66.1	57.1	58.3	66.7	66.8
Vehicle Noise:	74.4	73.5	70.4	65.7	74.2	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	247	532	1,146
CNEL:	123	265	571	1,231

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Burt Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,479 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,495 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.12	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.12	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.08	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	247	531	1,144
CNEL:	123	265	571	1,229

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Marine to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,150 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.71	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.53	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.48	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	70.0	63.9	72.5	73.1
Medium Trucks:	66.4	65.7	59.3	57.8	66.3	66.5
Heavy Trucks:	66.8	66.2	57.2	58.4	66.8	66.9
Vehicle Noise:	74.5	73.6	70.5	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	194	417	898	1,935
CNEL:	208	448	965	2,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Trabuco Road to Towngate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,347 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,411 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.8	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	436	939
CNEL:	101	217	468	1,009

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,517 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,260 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	454	979

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-5 SB Off-Ramp to Marine

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,956	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,286	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.91	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.33	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.28	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.6	64.9	58.5	57.0	65.5	65.7
Heavy Trucks:	66.0	65.4	56.4	57.6	66.0	66.1
Vehicle Noise:	73.7	72.8	69.7	65.0	73.5	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	171	369	795	1,712
CNEL:	184	396	854	1,840

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Hospital to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,333 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,162 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.6	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	414	893
CNEL:	96	207	445	959

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Nightmist to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,225	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,896	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.50	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.74	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.70	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.8	62.7	71.3	71.9
Medium Trucks:	65.2	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.6	65.0	55.9	57.2	65.6	65.7
Vehicle Noise:	73.3	72.4	69.3	64.5	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	161	346	746	1,607
CNEL:	173	372	801	1,726

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-405 SB Off-Ramp to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,420 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,005 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.37	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.87	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.82	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.7	71.4	72.0
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.6	65.0	56.0	57.2	65.6	65.7
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	969
CNEL:	104	224	483	1,042

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: I-5 NB Off-Ramp to Nightmist

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,804 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,944 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.55	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.69	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.64	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.8	71.4	72.0
Medium Trucks:	65.2	64.5	58.2	56.6	65.1	65.3
Heavy Trucks:	65.6	65.0	56.0	57.3	65.6	65.7
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	162	349	752	1,620
CNEL:	174	375	808	1,740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Towngate to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,276 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,993 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.7
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	860
CNEL:	92	199	429	924

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Waterworks to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,662 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,777 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.03	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	380	818
CNEL:	88	189	408	879

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Irvine Boulevard to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,085 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,904 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	610
CNEL:	66	141	304	656

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Roosevelt to Trabuco Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	153	331	712	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon Avenue
Road Segment: Alton Parkway to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,877 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,877 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.18	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.06	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.01	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.6	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	395	850
CNEL:	91	197	424	913

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sand Canyon/Shady Canyon
Road Segment: Quail Hill Parkway to I-405 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,017 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,981 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.56	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.68	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.63	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	734
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Scientific Way
Road Segment: Irvine Center Drive to Wald
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,634 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	135 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-9.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-26.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-30.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.5	51.4	49.7	43.6	52.2	52.8
Medium Trucks:	46.7	46.0	39.7	38.1	46.6	46.8
Heavy Trucks:	48.6	48.0	38.9	40.2	48.5	48.7
Vehicle Noise:	54.7	53.8	50.4	46.0	54.5	55.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	27	58
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Shady Canyon Drive
Road Segment: Culver Drive/Bonita Canyon Drive to Cloverfield

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,541 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	787 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.45	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-20.69	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-24.64	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.0	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.4	60.8	51.7	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.1	60.3	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	68	147	316
CNEL:	34	73	158	340

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Shady Canyon Drive
Road Segment: Bommer Canyon Road to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,202 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	677 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.11	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.34	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.30	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	59.4	58.7	52.3	50.8	59.3	59.5
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	36	77	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Skyhawk
Road Segment: Great Park Boulevard to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,359 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	855 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-0.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.3	53.6	47.5	56.1	56.8
Medium Trucks:	51.2	50.6	44.2	42.7	51.1	51.4
Heavy Trucks:	54.5	53.9	44.8	46.1	54.4	54.6
Vehicle Noise:	59.3	58.4	54.5	50.6	59.1	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	55	118
CNEL:	13	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Southwood
Road Segment: Yale Avenue to Colt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,070 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	253 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.82	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.06	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.02	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.1	57.0	55.3	49.2	57.8	58.5
Medium Trucks:	52.3	51.7	45.3	43.8	52.2	52.5
Heavy Trucks:	54.2	53.6	44.6	45.8	54.2	54.3
Vehicle Noise:	60.3	59.5	56.0	51.6	60.2	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	83
CNEL:	9	19	41	88

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Southwood
Road Segment: Challenger to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	240 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.06	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.30	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.25	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.9	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	52.1	51.4	45.1	43.5	52.0	52.2
Heavy Trucks:	53.9	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	60.1	59.2	55.8	51.4	59.9	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Spectrum Center Drive (Fortune
Road Segment: Pacifica to Quassar Drive (Spectrum)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,720 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	967 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	53.7	53.0	46.6	45.1	53.5	53.8
Heavy Trucks:	56.1	55.6	46.5	47.8	56.1	56.3
Vehicle Noise:	61.7	60.8	57.2	53.0	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	84	181

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Spectrum Center Drive (Fortune
Road Segment: Quassar Drive (Spectrum) to Gatewayb

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,355 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,102 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-20.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	54.2	53.6	47.2	45.7	54.1	54.3
Heavy Trucks:	56.7	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	62.2	61.4	57.7	53.6	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	185
CNEL:	20	42	92	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Sunnyhill
Road Segment: Shady Canyon Drive to Turtle Rock Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,895 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	569 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-1.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-19.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-23.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.6	53.6	51.8	45.8	54.4	55.0
Medium Trucks:	49.5	48.8	42.4	40.9	49.4	49.6
Heavy Trucks:	52.7	52.1	43.1	44.3	52.7	52.8
Vehicle Noise:	57.5	56.7	52.8	48.9	57.4	57.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Technology Drive
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,560 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,769 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	305	657
CNEL:	71	152	327	705

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Technology Drive
Road Segment: Old Laguna Canyon Road to I-5/SR-133 Undercrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,533 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,106 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.3	68.4	65.3	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	548
CNEL:	59	127	273	588

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Technology Drive
Road Segment: I-5/SR-133 to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,552 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,026 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	69.2	68.3	65.1	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	248	534
CNEL:	57	123	266	573

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Technology Drive
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,603 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	545 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.6	58.8	52.7	61.4	62.0
Medium Trucks:	55.4	54.7	48.3	46.8	55.3	55.5
Heavy Trucks:	56.2	55.6	46.6	47.9	56.2	56.3
Vehicle Noise:	63.5	62.6	59.4	54.7	63.3	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	222
CNEL:	24	51	111	239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Toledo Way
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,876 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	650 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.2	56.6	50.2	48.7	57.1	57.4
Heavy Trucks:	57.7	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	65.4	64.5	61.4	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	149	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Toledo Way
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	56.8	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.5	63.6	60.5	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	260
CNEL:	28	60	129	279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Toledo Way
Road Segment: Alton Parkway to Parker

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,030 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	497 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.5	59.7	53.6	62.3	62.9
Medium Trucks:	56.1	55.4	49.0	47.5	56.0	56.2
Heavy Trucks:	56.5	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	64.2	63.3	60.3	55.5	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	249
CNEL:	27	58	124	268

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: Keystone to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,918 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,231 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.9	58.3	51.9	50.3	58.8	59.0
Heavy Trucks:	59.8	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	67.0	66.1	62.9	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	178	383
CNEL:	41	88	191	411

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: Jeffrey Road to Keystone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,426 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,190 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	58.8	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.9	65.9	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	374
CNEL:	40	87	186	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: Culver Drive to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,569 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,119 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.4	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	66.6	65.7	62.5	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	167	359
CNEL:	39	83	179	386

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: Monroe to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,781 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,137 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	58.6	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.7	65.7	62.6	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	363
CNEL:	39	84	181	390

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: I-5 NB Off-Ramp to Monroe

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,404 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,106 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	357
CNEL:	38	82	178	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: Yale Avenue to Remington

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,594 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,039 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.0	58.4	49.4	50.7	59.0	59.1
Vehicle Noise:	66.3	65.4	62.2	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Trabuco Road
Road Segment: Remington to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,786 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	972 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.1	61.3	55.3	63.9	64.5
Medium Trucks:	57.9	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	58.7	58.2	49.1	50.4	58.7	58.8
Vehicle Noise:	66.0	65.1	61.9	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	70	152	327
CNEL:	35	76	163	351

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Ridge Drive
Road Segment: Federation Way to Bonita Canyon
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,959 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,729 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.3
Vehicle Noise:	68.5	67.6	64.4	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	223	480
CNEL:	52	111	239	515

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Rock Drive
Road Segment: Ridgeline to Willowleaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,839 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	729 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.32	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.56	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.52	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.8	50.7	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	252
CNEL:	27	58	126	271

Saturday, March 2, 2024

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Rock Drive
Road Segment: Silkwood to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,790 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	725 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.35	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.58	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.54	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	251
CNEL:	27	58	125	270

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Rock Drive
Road Segment: Canyon Park to Ridgeline
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,358 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	607 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.12	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.31	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	223
CNEL:	24	52	111	239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Rock Drive
Road Segment: Sunnyhill to Southernwood
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,664 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	302 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.15	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-28.34	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	70	150

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Rock Drive
Road Segment: Campus Drive to Hillgate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,303 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	602 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	56.7	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	63.9	63.0	59.8	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	238
CNEL:	26	55	118	255

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Turtle Rock Drive
Road Segment: Paseo Segovia to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,071 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	336 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.69	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-23.93	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-27.88	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	65.2	64.3	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	185
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Golden Glow to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,486 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,588 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.3	62.2	70.8	71.4
Medium Trucks:	64.7	64.0	57.6	56.1	64.5	64.8
Heavy Trucks:	65.1	64.5	55.5	56.7	65.1	65.2
Vehicle Noise:	72.8	71.9	68.8	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	432	931
CNEL:	100	215	464	1,000

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Ridgeline to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,139 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,384 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.01	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.23	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-17.18	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.4	71.5	68.4	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	486	1,048
CNEL:	113	243	522	1,126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Culver Drive to Golden Glow
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,225 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,484 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.5	63.9	57.5	56.0	64.4	64.7
Heavy Trucks:	64.9	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	72.7	71.7	68.7	63.9	72.5	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	197	424	913
CNEL:	98	211	455	981

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Yale Avenue to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,727 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,112 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.7	61.6	70.2	70.8
Medium Trucks:	64.0	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.5	63.9	54.8	56.1	64.4	64.6
Vehicle Noise:	72.2	71.3	68.2	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	182	393	847
CNEL:	91	196	422	910

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,931 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.52	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.72	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.67	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	120	259	557	1,200
CNEL:	129	278	599	1,289

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Mesa to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,258	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,816	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.41	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.83	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.79	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.2	65.6	59.2	57.7	66.1	66.4
Heavy Trucks:	66.6	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.4	73.4	70.4	65.6	74.2	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	528	1,137
CNEL:	122	263	567	1,222

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,885 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,868 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.47	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.77	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.73	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.7	69.9	63.8	72.5	73.1
Medium Trucks:	66.3	65.6	59.3	57.7	66.2	66.4
Heavy Trucks:	66.7	66.1	57.1	58.3	66.7	66.8
Vehicle Noise:	74.4	73.5	70.5	65.7	74.2	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	247	532	1,147
CNEL:	123	266	572	1,233

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: California Avenue to Mesa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,113 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,722 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.30	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.94	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.90	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	66.1	65.5	59.1	57.5	66.0	66.2
Heavy Trucks:	66.5	66.0	56.9	58.2	66.5	66.6
Vehicle Noise:	74.3	73.3	70.3	65.5	74.1	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	241	519	1,118
CNEL:	120	259	558	1,201

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,009 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,136 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.4	61.8	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.6	69.6	66.6	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	191	412	887
CNEL:	95	205	443	954

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,520 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,693 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.12	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-17.36	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-21.32	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.1	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	609
CNEL:	65	141	304	655

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,513 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,847 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	832
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: San Joaquin to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,679 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,531 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	769
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: University Drive
Road Segment: Harvard Avenue to San Joaquin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,550 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,520 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.7	68.3
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	767
CNEL:	82	178	383	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Valley Oak Drive
Road Segment: Hawkcreek to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,837 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,142 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.03	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.8	66.9	63.9	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	201	434
CNEL:	47	100	216	466

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Valley Oak Drive
Road Segment: Irvine Center Drive to Oak Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,291 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,014 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.35	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-19.59	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-23.54	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	69.3	68.3	65.3	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	201	433
CNEL:	47	100	216	465

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Valley Oak Drive
Road Segment: Barranca Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,266 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	929 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.9	66.0	63.0	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	176	378
CNEL:	41	88	189	406

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Valley Oak Drive
Road Segment: Alton Parkway to Hawkcreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,590 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	544 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	56.5	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	64.6	63.7	60.6	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	123	265
CNEL:	28	61	132	284

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Marriott to Morse Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,487 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,928 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	63.5	62.9	53.9	55.2	63.5	63.6
Vehicle Noise:	70.8	69.9	66.7	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	317	682
CNEL:	73	158	340	732

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Michelson Drive to Quartz

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,303 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,830 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.6	69.7	66.6	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	667
CNEL:	72	154	332	716

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,736 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,783 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.1
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	306	660
CNEL:	71	152	328	708

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,710 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,441 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.42	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.82	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	84.25	-17.78	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.0
Vehicle Noise:	70.2	69.3	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	80	173	373	803

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Main Street to Anchor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,066 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,728 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.4	61.7	55.3	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.5	69.5	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	651
CNEL:	70	150	324	698

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Anchor to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,904 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,632 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.2	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	70.3	69.4	66.2	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	295	636
CNEL:	68	147	316	682

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Morse to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,079 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,481 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.6
Medium Trucks:	62.0	61.3	54.9	53.4	61.9	62.1
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.0	69.1	66.0	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	284	611
CNEL:	66	141	304	656

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Martin to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,978	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,143	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.4
Heavy Trucks:	62.2	61.6	52.5	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	554
CNEL:	59	128	276	595

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Campus Drive to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,324 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,089 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	69.3	68.4	65.2	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	545
CNEL:	58	126	271	584

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Von Karman Avenue
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,306 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,088 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	69.3	68.4	65.2	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	545
CNEL:	58	126	271	584

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Jeffrey Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,873 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,877 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.5	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	70.7	69.8	66.6	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	313	674
CNEL:	72	156	336	723

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Myford Road to Jamboree Road SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,422 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,932 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.9	60.2	53.8	52.3	60.8	61.0
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.0	68.1	64.9	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	240	517
CNEL:	55	120	258	555

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: The Mall Street to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,556 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,778 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	489
CNEL:	52	113	244	525

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Harvard Avenue to The Mall Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,771 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.3	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	488
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Franciscan Street to Ravenwood Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,217 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,668 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	218	469
CNEL:	50	108	233	503

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Ravenwood Street to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,725 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,627 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.03	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	214	461
CNEL:	49	107	230	495

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Culver Drive to Franciscan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,522 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,611 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.9	60.3	51.3	52.6	60.9	61.0
Vehicle Noise:	68.2	67.3	64.1	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	458
CNEL:	49	106	228	491

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Peters Canyon Road to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,432 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,181 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.8	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	585
CNEL:	63	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Jamboree Road NB Off-Ramp to Peters Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,325	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,089	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.6	66.2
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	264	568
CNEL:	61	131	283	610

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Yale Avenue to Kazan Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,195 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,254 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	416

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Walnut Avenue
Road Segment: Wisteria to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,856 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,226 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.7	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	67.0	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	382
CNEL:	41	88	190	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Warner Avenue
Road Segment: Jamboree Road SB Off-ramp to Construction North
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,958 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,389 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.9	69.0	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	128	277	596
CNEL:	64	138	297	639

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Warner Avenue
Road Segment: Construction North to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,168 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,664 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Warner Avenue
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,205 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,172 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	66.8	65.9	62.7	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	371
CNEL:	40	86	185	398

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Warner Avenue
Road Segment: Santa Ynez to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,717 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	967 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	57.9	57.2	50.8	49.3	57.8	58.0
Heavy Trucks:	58.7	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	66.0	65.0	61.9	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	70	151	326
CNEL:	35	75	162	350

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Warner Avenue
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,973 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	905 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.8	61.0	54.9	63.6	64.2
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.4	57.8	48.8	50.1	58.4	58.5
Vehicle Noise:	65.7	64.8	61.6	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	312
CNEL:	33	72	155	335

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Alton Parkway to Blue Lake North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,360 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	772 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	55.7	55.0	48.6	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	107	231
CNEL:	25	53	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Eagle Run to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,015 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	744 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.5	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.5	54.8	48.5	46.9	55.4	55.6
Heavy Trucks:	56.8	56.2	47.2	48.5	56.8	56.9
Vehicle Noise:	63.5	62.7	59.4	54.8	63.4	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	112	242

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Thunder Run to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,484 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	782 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.1	48.7	47.2	55.6	55.8
Heavy Trucks:	57.0	56.5	47.4	48.7	57.0	57.2
Vehicle Noise:	63.8	62.9	59.6	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Main Street to Timber Run
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,261 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	599 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	59.5	57.8	51.7	60.3	60.9
Medium Trucks:	54.6	53.9	47.5	46.0	54.5	54.7
Heavy Trucks:	55.9	55.3	46.3	47.5	55.9	56.0
Vehicle Noise:	62.6	61.7	58.4	53.9	62.4	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	42	91	195
CNEL:	21	45	97	209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Yale Avenue to Shorebird

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,013 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	661 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	60.0	58.2	52.1	60.8	61.4
Medium Trucks:	55.0	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.0	62.1	58.9	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	209
CNEL:	22	48	104	223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Warner Avenue to Stonecreek South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,018 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	579 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	54.4	53.8	47.4	45.8	54.3	54.5
Heavy Trucks:	55.7	55.2	46.1	47.4	55.7	55.9
Vehicle Noise:	62.5	61.6	58.3	53.7	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	191
CNEL:	20	44	95	204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,549 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.9	45.8	47.1	55.4	55.5
Vehicle Noise:	62.2	61.3	58.0	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	182
CNEL:	20	42	91	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Stonecreek North to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,875 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	567 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.3	57.5	51.5	60.1	60.7
Medium Trucks:	54.3	53.7	47.3	45.8	54.2	54.5
Heavy Trucks:	55.7	55.1	46.0	47.3	55.6	55.8
Vehicle Noise:	62.4	61.5	58.2	53.6	62.2	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	87	188
CNEL:	20	43	94	202

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: West Yale Loop
Road Segment: Birdsong to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,637 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	548 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.4	51.3	59.9	60.6
Medium Trucks:	54.2	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.5	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	62.2	61.3	58.0	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	85	184
CNEL:	20	42	91	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Westwood
Road Segment: Yorktown to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,031 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	498 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.89	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-21.13	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-25.08	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.3	54.6	48.2	46.7	55.2	55.4
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	63.3	62.4	59.0	54.6	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	130
CNEL:	14	30	64	139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Westwood
Road Segment: Bryan Avenue to Leaf
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,919 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	323 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.76	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.00	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.96	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	53.4	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	55.2	54.7	45.6	46.9	55.2	55.4
Vehicle Noise:	61.4	60.5	57.1	52.7	61.2	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	45	97
CNEL:	10	22	48	104

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Deerfield Avenue to Winvale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,502 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	866 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.81	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.77	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Hicks Canyon Drive to Meadowood
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,828 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	646 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.85	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.09	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.04	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Walnut Avenue to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,197 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,254 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.97	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.21	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-22.16	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.8	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.7	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	70.9	70.0	66.8	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	207	446
CNEL:	48	103	222	479

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,306 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,180 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,416 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,107 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.5	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	357
CNEL:	38	82	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: West Yale Loop to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,658 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,044 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.0	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	66.3	65.4	62.2	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	343
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Winvale Avenue to Karen Ann Lane
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,524 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	868 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.5	64.6	61.4	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	33	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Karen Ann Lane to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,524 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	868 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	65.5	64.6	61.4	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	33	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Trabuco Road to Southwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,332 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	852 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.7	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	139	300
CNEL:	32	69	149	322

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Southwood to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,807 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	809 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	65.2	64.3	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	134	289
CNEL:	31	67	144	311

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Northwood to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,199 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	759 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	56.8	56.2	49.8	48.2	56.7	56.9
Heavy Trucks:	57.7	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	64.9	64.0	60.8	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	129	277
CNEL:	30	64	138	298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,895 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	734 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.7	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	64.8	63.8	60.7	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	126	271
CNEL:	29	63	135	291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: Irvine Boulevard to Park Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,432 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	613 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	56.7	56.2	47.1	48.4	56.7	56.8
Vehicle Noise:	64.0	63.1	59.9	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	56	120	258

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Avenue
Road Segment: University Drive to Royce

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,006 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	331 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.76	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-24.00	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-27.95	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.3	58.6	52.5	61.1	61.8
Medium Trucks:	55.2	54.5	48.1	46.6	55.1	55.3
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	63.2	62.3	59.2	54.5	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	172
CNEL:	18	40	86	185

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Conservative
Road Name: Yale Court
Road Segment: Arborwood to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,472 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	534 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.12	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-19.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-23.32	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.2	54.4	48.4	57.0	57.6
Medium Trucks:	52.1	51.4	45.1	43.5	52.0	52.2
Heavy Trucks:	55.3	54.7	45.7	46.9	55.3	55.4
Vehicle Noise:	60.1	59.3	55.4	51.5	60.0	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Ada
Road Segment: Barranca Parway to Marine Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,902 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.35	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-15.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-19.84	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	70.5	69.6	66.3	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	394
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Ada
Road Segment: Alton Parkway to Barranca PArkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,443 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,594 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.9	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	62.3	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	69.0	68.1	64.8	60.3	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	241	519
CNEL:	56	120	258	556

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Enterprise to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	76,615 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,321 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.9	70.8	69.1	63.0	71.6	72.2
Medium Trucks:	65.5	64.8	58.4	56.9	65.4	65.6
Heavy Trucks:	65.9	65.3	56.3	57.5	65.9	66.0
Vehicle Noise:	73.6	72.7	69.6	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	305	657	1,416
CNEL:	152	328	706	1,521

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: I-5 NB Off-Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	80,851 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,670 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.83	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.41	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.36	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	66.1	65.4	59.1	57.5	66.0	66.2
Heavy Trucks:	66.5	65.9	56.9	58.2	66.5	66.6
Vehicle Noise:	74.2	73.3	70.3	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	149	321	691	1,489
CNEL:	160	345	742	1,600

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,166 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,654 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.1	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	353	761
CNEL:	82	176	380	818

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Gateway Boulevard to Enterprise

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,610	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,845	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.7	63.1	54.1	55.4	63.7	63.8
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	219	472	1,017
CNEL:	109	235	507	1,092

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Jeffrey Road to Royal Oak

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,401 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,096 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.3	61.7	55.3	53.7	62.2	62.4
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.5	69.5	66.5	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	650
CNEL:	70	151	324	699

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Daimler Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,851 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,050 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	298	641
CNEL:	69	148	320	689

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,627 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,032 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	637
CNEL:	68	147	318	685

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: West Yale Loop to Lake Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,512 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,022 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	69.0
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	295	635
CNEL:	68	147	317	682

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,987 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,124 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.74	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.49	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.45	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	64.0	63.4	57.0	55.4	63.9	64.1
Heavy Trucks:	64.4	63.9	54.8	56.1	64.4	64.6
Vehicle Noise:	72.2	71.2	68.2	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	502	1,081
CNEL:	116	250	539	1,161

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Creek Road to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,159 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,993 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	292	629
CNEL:	68	146	314	676

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Red Hill Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,510 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,940 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	618
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,987 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,896 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	609
CNEL:	65	141	303	654

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Telemetry to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,191 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,913 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.0
Heavy Trucks:	62.3	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.1	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	284	612
CNEL:	66	142	305	658

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Irvine Boulevard to Commercentre

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,024 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,137 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.4	61.8	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.6	69.6	66.6	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	191	412	888
CNEL:	95	205	443	954

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Jenner to Telemetry

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,846 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,885 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	281	606
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Irvine Center Drive to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,281 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,241 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	907
CNEL:	97	210	452	975

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Sand Canyon Avenue to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,094 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,060 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.45	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.79	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.75	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.6	68.9	62.8	71.4	72.1
Medium Trucks:	65.3	64.6	58.2	56.7	65.2	65.4
Heavy Trucks:	65.7	65.1	56.1	57.3	65.7	65.8
Vehicle Noise:	73.4	72.5	69.4	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	211	456	981
CNEL:	105	227	489	1,054

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Laguna Canyon Road to Jenner

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,385 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,847 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	277	598
CNEL:	64	138	298	642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Technology Drive East to Barranca Pkwy/Muirlands Blvd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,771 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,116 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.53	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.71	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.67	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	884
CNEL:	95	205	441	950

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Royal Oak to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,298 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,757 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.7	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	268	578
CNEL:	62	134	288	621

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,046 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,736 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	124	266	574
CNEL:	62	133	286	616

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Barranca Pkwy/Muirlands Blvd to Jeronimo Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,513 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,765 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.01	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.19	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	816
CNEL:	88	189	407	877

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Ada to Technology Drive East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,803 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	823
CNEL:	88	191	411	885

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,636 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,620 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.6	61.0	52.0	53.3	61.6	61.7
Vehicle Noise:	69.3	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	548
CNEL:	59	127	273	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Jeronimo Road to Hughes

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,590 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	363	781
CNEL:	84	181	390	839

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Hughes to Morgan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,451 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.75	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.71	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	753
CNEL:	81	174	376	809

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Morgan to Toledo Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,095	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,070	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.5	51.4	52.7	61.0	61.1
Vehicle Noise:	68.8	67.8	64.8	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	673
CNEL:	72	156	336	723

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: San Marino to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,417 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,097 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.7	60.0	53.6	52.1	60.6	60.8
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	315	679
CNEL:	73	157	338	729

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,653 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,034 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.7	67.8	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	309	665
CNEL:	71	154	332	714

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Hospital to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,790 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,045 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.70	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.54	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.50	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.5	62.9	56.5	54.9	63.4	63.6
Heavy Trucks:	63.9	63.4	54.3	55.6	63.9	64.0
Vehicle Noise:	71.7	70.7	67.7	62.9	71.5	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	348	750
CNEL:	81	174	374	806

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,843 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,967 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.53	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.71	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.66	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.1	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	731
CNEL:	79	169	364	785

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Murphy Avenue to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,566 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,944 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	60.8	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.6	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	300	645
CNEL:	69	149	322	693

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Foster to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,154	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,910	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.40	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.1
Medium Trucks:	60.3	59.6	53.2	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	638
CNEL:	69	148	318	685

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Fairbanks to Foster

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,916 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,808 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.4	53.0	51.5	59.9	60.1
Heavy Trucks:	60.5	59.9	50.8	52.1	60.4	60.6
Vehicle Noise:	68.2	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	615
CNEL:	66	142	307	661

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Toledo Way to Bertea

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,840 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	613
CNEL:	66	142	306	659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Pacifica to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,678 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,871 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.31	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.93	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.88	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.3	70.3	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	152	328	707
CNEL:	76	164	353	759

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Bertea to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,315	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,758	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Meridian to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,601 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,700 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.34	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	59.8	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	63.9	59.1	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	590
CNEL:	63	137	294	634

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Paseo Westpark to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,504 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,692 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	59.7	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	67.9	67.0	63.9	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	588
CNEL:	63	136	293	632

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Alton Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,861 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,474 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.4	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	536
CNEL:	58	124	268	576

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Astor
Road Segment: Lynx to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,393 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,600 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.85	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-15.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-19.34	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	66.7	65.9	62.2	58.1	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	222
CNEL:	24	51	110	236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Astor
Road Segment: Cadence to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,767 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,218 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.67	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-16.57	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-20.53	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.6	56.9	50.5	49.0	57.4	57.7
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	65.6	64.7	61.1	56.9	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	185
CNEL:	20	42	91	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: I-5 NB Off-Ramp to Rockfield Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	95,631 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,890 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-10.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-14.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.7	73.6	71.8	65.8	74.4	75.0
Medium Trucks:	68.2	67.5	61.2	59.6	68.1	68.3
Heavy Trucks:	68.6	68.0	59.0	60.3	68.6	68.7
Vehicle Noise:	76.4	75.4	72.4	67.6	76.2	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	257	554	1,194	2,572
CNEL:	276	595	1,282	2,763

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Muirlands Boulevard to Jeronimo Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,319 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,059 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.5	63.8	57.5	55.9	64.4	64.6
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	72.6	71.7	68.7	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	263	567	1,221
CNEL:	131	283	609	1,312

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Rockfield Boulevard to Muirlands Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,285	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,468	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.97	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.27	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.22	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.2	64.2	72.8	73.4
Medium Trucks:	66.6	66.0	59.6	58.1	66.5	66.7
Heavy Trucks:	67.0	66.5	57.4	58.7	67.0	67.2
Vehicle Noise:	74.8	73.8	70.8	66.0	74.6	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	201	434	935	2,014
CNEL:	216	466	1,004	2,164

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Jeronimo Road to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,538 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,087 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.4
Medium Trucks:	63.6	62.9	56.5	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.7	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	228	491	1,059
CNEL:	114	245	528	1,138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Toledo Way to Cromwell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,757 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,775 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.36	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.83	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.3
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.4	70.4	67.4	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	466	1,004
CNEL:	108	232	501	1,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Cromwell to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,473 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,752 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	215	464	1,000
CNEL:	107	232	499	1,075

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Research Drive to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,172 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,324 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.94	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.1	60.5	54.1	52.5	61.0	61.2
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.6
Vehicle Noise:	69.3	68.3	65.3	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	337	727
CNEL:	78	168	362	781

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Irvine Center Drive to Research Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,545 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	787 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-20.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-24.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.4	55.8	49.4	47.8	56.3	56.5
Heavy Trucks:	56.8	56.3	47.2	48.5	56.8	56.9
Vehicle Noise:	64.6	63.6	60.6	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	353
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bake Parkway
Road Segment: Lake Forest Drive to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,811 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	562 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-22.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-26.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.3	58.6	52.5	61.1	61.7
Medium Trucks:	55.0	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	63.1	62.2	59.1	54.3	62.9	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	282
CNEL:	30	65	141	303

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Banting
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	448 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-21.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-25.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.7	56.6	54.9	48.8	57.4	58.1
Medium Trucks:	51.9	51.3	44.9	43.3	51.8	52.0
Heavy Trucks:	53.8	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	59.9	59.1	55.6	51.2	59.8	60.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	130
CNEL:	14	30	64	138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Pacifica to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,247 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,825 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	432	932
CNEL:	100	216	465	1,002

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,312	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,583	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.2	63.6	57.2	55.6	64.1	64.3
Heavy Trucks:	64.3	63.7	54.6	55.9	64.2	64.4
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	877
CNEL:	94	203	438	944

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: I-5 HOV Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,030 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,560 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	68.0	61.9	70.5	71.1
Medium Trucks:	64.2	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	72.4	71.4	68.5	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	872
CNEL:	94	202	436	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,409 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,509 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.1
Medium Trucks:	64.1	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.1	63.5	54.5	55.8	64.1	64.2
Vehicle Noise:	72.3	71.4	68.4	63.5	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	861
CNEL:	93	199	430	926

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Irvine Center Drive to I-5 HOV Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,916 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,386 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.95	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.24	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.7	61.6	70.2	70.8
Medium Trucks:	63.9	63.2	56.8	55.3	63.8	64.0
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	72.1	71.1	68.2	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	832
CNEL:	90	193	416	895

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,904 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,302 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.4	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	377	813
CNEL:	87	188	406	874

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,289 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,251 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.7
Heavy Trucks:	63.7	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	372	801
CNEL:	86	186	400	861

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,674 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,201 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.6
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	848

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Ada to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,859 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,216 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.9	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	792
CNEL:	85	184	396	852

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,910	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,055	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	753
CNEL:	81	175	376	811

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Red Hill Avenue to Armstrong Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,771 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,941 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.13	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.10	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.06	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	70.0	63.9	72.5	73.1
Medium Trucks:	66.2	65.5	59.2	57.6	66.1	66.3
Heavy Trucks:	66.2	65.6	56.6	57.9	66.2	66.3
Vehicle Noise:	74.4	73.5	70.5	65.6	74.2	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	190	409	882	1,900
CNEL:	204	440	949	2,044

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Discovery/Herchel to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,148 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,992 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.5	53.5	54.8	63.1	63.2
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	343	738
CNEL:	79	171	368	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Lyon to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,579 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,945 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	71.2	70.3	67.3	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	156	337	726
CNEL:	78	168	363	781

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Creek Road to Lyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,163 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,911 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	71.1	70.2	67.2	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	333	718
CNEL:	77	166	358	772

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,461 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,421 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.52	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.72	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.68	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	68.0	61.9	70.6	71.2
Medium Trucks:	64.2	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.2	63.6	54.6	55.9	64.2	64.3
Vehicle Noise:	72.4	71.5	68.5	63.6	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	241	520	1,119
CNEL:	120	259	559	1,204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Barranca Parkway
Job Number: 15937
Road Segment: Sand Canyon Avenue to Laguna Canyon Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,188 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,665 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.3	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.5	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	141	304	655
CNEL:	70	152	327	705

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Armstrong Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,551 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,180 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.20	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.04	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.99	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.7	61.6	70.2	70.8
Medium Trucks:	63.9	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	72.1	71.1	68.2	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	495	1,066
CNEL:	115	247	532	1,147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,557 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,613 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	298	641
CNEL:	69	149	320	690

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Jamboree Road to Construction Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,326 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,584 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.5
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.8	69.8	66.9	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	197	425	915
CNEL:	98	212	457	985

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Santa Rosa to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,197 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,491 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.4	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	70.6	69.7	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	415	893
CNEL:	96	207	446	961

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: FedEx to Discovery/Herchel

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,670 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,458 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	61.8	61.2	52.1	53.4	61.8	61.9
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	599
CNEL:	64	139	299	645

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Jeffrey Road to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,571 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,450 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	61.7	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.9	69.0	66.0	61.1	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	277	597
CNEL:	64	138	298	642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Laguna Canyon Road to FedEx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,419 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.6	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	61.7	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	589
CNEL:	63	136	294	633

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Pullman Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,452 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,090 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.08	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-15.16	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-19.12	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.2	64.6	55.5	56.8	65.2	65.3
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	162	348	750	1,615
CNEL:	174	374	807	1,738

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Construction Circle to Fire Station

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,431 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,263 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	69.0
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	389	838
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Fire Station to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,431 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,263 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	69.0
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	389	838
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Paseo Westpark to Santa Rosa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,247 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	387	834
CNEL:	90	193	416	897

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Barranca Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,071 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,068 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.6	61.1	52.0	53.3	61.6	61.7
Vehicle Noise:	69.8	68.9	65.9	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	849

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bay Tree
Road Segment: Trabuco Road to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,742 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	226 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.7	53.7	51.9	45.9	54.5	55.1
Medium Trucks:	49.0	48.3	41.9	40.4	48.8	49.1
Heavy Trucks:	50.8	50.2	41.2	42.4	50.8	50.9
Vehicle Noise:	57.0	56.1	52.6	48.3	56.8	57.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	41	88

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Beacon
Road Segment: Ridge Valley to Benchmark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,509 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	290 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.57	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-22.81	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-26.77	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.8	55.7	54.0	47.9	56.5	57.2
Medium Trucks:	51.3	50.6	44.3	42.7	51.2	51.4
Heavy Trucks:	53.8	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	59.3	58.5	54.8	50.6	59.1	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	71
CNEL:	8	16	35	76

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Benchmark (LN Street)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,745 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	144 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.61	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.85	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.80	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.8	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	48.3	47.6	41.3	39.7	48.2	48.4
Heavy Trucks:	50.8	50.2	41.1	42.4	50.7	50.9
Vehicle Noise:	56.3	55.4	51.8	47.6	56.1	56.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	10	21	44
CNEL:	5	10	22	47

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bison Avenue
Road Segment: SR-73 NB Off-Ramp to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,126 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.2
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	256	551
CNEL:	59	127	274	591

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bonita Canyon Drive
Road Segment: MacArthur Boulevard to SR-73

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,737 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,536 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.63	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.61	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-19.56	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	727
CNEL:	78	168	363	781

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bonita Canyon Drive
Road Segment: Turtle Ridge to Shady Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,728 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,710 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.08	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.32	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.27	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.6	60.0	50.9	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.3	59.5	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	260	559
CNEL:	60	129	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bonita Canyon Drive
Road Segment: Newport Coast Drive to Turtle Ridge
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,103 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,576 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.43	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.67	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.63	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	530
CNEL:	57	123	264	569

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bonita Canyon Drive
Road Segment: SR-73 NB Off-Ramp to Newport Coast Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,113 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,494 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.66	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.90	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.86	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.6	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	237	511
CNEL:	55	118	255	549

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bosque
Road Segment: Cadence to Great Park Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,836 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,059 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.06	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-17.18	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-21.14	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	57.0	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	65.0	64.1	60.4	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	78	168
CNEL:	18	39	83	179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bosque
Road Segment: Irvine Boulevard to Benchmark (LN Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,601 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.68	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-18.92	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-22.87	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.6	57.9	51.8	60.4	61.0
Medium Trucks:	55.2	54.5	48.2	46.6	55.1	55.3
Heavy Trucks:	57.7	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	63.2	62.3	58.7	54.5	63.0	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	129
CNEL:	14	30	64	137

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bosque
Road Segment: Benchmark to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,908 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	652 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-2.04	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.28	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.24	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.3	57.5	51.5	60.1	60.7
Medium Trucks:	54.8	54.2	47.8	46.3	54.7	55.0
Heavy Trucks:	57.3	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	62.8	62.0	58.3	54.2	62.7	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bosque
Road Segment: Great Park Boulevard to Beacon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,828 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	151 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.41	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.64	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.60	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	52.9	51.2	45.1	53.7	54.3
Medium Trucks:	48.5	47.8	41.5	39.9	48.4	48.6
Heavy Trucks:	51.0	50.4	41.3	42.6	50.9	51.1
Vehicle Noise:	56.5	55.6	52.0	47.8	56.3	56.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	21	46
CNEL:	5	11	23	49

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bosque
Road Segment: Beacon to S 5th Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,591 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	131 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-9.01	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-26.25	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-30.20	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.4	52.3	50.5	44.5	53.1	53.7
Medium Trucks:	47.9	47.2	40.9	39.3	47.8	48.0
Heavy Trucks:	50.4	49.8	40.7	42.0	50.3	50.5
Vehicle Noise:	55.9	55.0	51.4	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Jamboree Road to Market Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,962 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,812 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.4	60.9	51.8	53.1	61.4	61.6
Vehicle Noise:	68.7	67.8	64.6	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	230	495
CNEL:	53	115	247	532

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Market Place to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,782 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	227	490
CNEL:	53	113	244	526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Rubicon to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,545 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,777 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	489
CNEL:	52	113	244	525

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: El Camino Real to Rubicon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,404 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,766 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	68.6	67.7	64.5	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	487
CNEL:	52	113	243	522

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Eastwood to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,773	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,136	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	58.6	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.7	65.7	62.6	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	363
CNEL:	39	84	181	389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Westwood to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,845	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,060	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.3	57.6	51.2	49.7	58.2	58.4
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.4	65.4	62.3	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	161	347
CNEL:	37	80	173	372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Culver Drive to Westwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,666 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,045 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.1	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	66.3	65.4	62.2	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	343
CNEL:	37	79	171	368

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Bryan Avenue
Road Segment: Yale Avenue to Eastwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,224 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,008 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.1	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	335
CNEL:	36	77	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Cadence
Road Segment: Pusan to Chinon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,990 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	577 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.83	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.07	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-25.02	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.3	64.4	61.2	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	83	178
CNEL:	19	41	88	190

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Cadence
Road Segment: Bosque to Pusan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,549 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.11	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.35	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-25.31	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	57.0	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.9	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Cadence
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,745 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	391 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.51	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.75	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.71	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.6	58.8	52.7	61.4	62.0
Medium Trucks:	55.6	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	63.6	62.7	59.5	54.9	63.5	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	137
CNEL:	15	32	68	147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Cadence
Road Segment: Chinon to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,194 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	264 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.23	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-24.47	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-28.43	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.9	57.1	51.0	59.7	60.3
Medium Trucks:	53.9	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	55.2	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	61.9	61.0	57.8	53.2	61.7	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	49	105
CNEL:	11	24	52	113

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Cadence
Road Segment: Merit to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.97	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-27.21	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-31.16	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.1	54.3	48.3	56.9	57.5
Medium Trucks:	51.2	50.5	44.1	42.6	51.0	51.3
Heavy Trucks:	52.5	51.9	42.8	44.1	52.4	52.6
Vehicle Noise:	59.2	58.3	55.0	50.5	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	74

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: California Avenue
Road Segment: University Drive to Academy Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,819 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,305 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	59.3	58.7	49.6	50.9	59.3	59.4
Vehicle Noise:	66.0	65.1	61.8	57.3	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	152	328
CNEL:	35	76	163	351

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: California Avenue
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,927 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	819 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.9	55.3	48.9	47.4	55.8	56.0
Heavy Trucks:	57.2	56.7	47.6	48.9	57.2	57.4
Vehicle Noise:	64.0	63.1	59.8	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	55	120	258

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: California Avenue
Road Segment: Theory to Bison Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,277 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	765 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	55.6	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	57.0	56.4	47.3	48.6	56.9	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	107	230
CNEL:	25	53	114	246

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Carlson Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,558 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,356 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.31	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-15.93	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-19.88	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.8	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	353	759
CNEL:	82	176	379	816

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: University Drive to Bridge Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,269 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,662 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.84	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	763
CNEL:	82	177	380	820

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Jamboree Road to Carlson Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,078 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,481 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.66	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.2	69.8
Medium Trucks:	63.1	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.2	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	728
CNEL:	78	169	363	782

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Stanford Court to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,269 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.5
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.8	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	318	686
CNEL:	74	159	342	737

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: California Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,527 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,188 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	311	669
CNEL:	72	155	334	719

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Berkeley Avenue to Cornell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,299 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,757 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.6	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.7	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	268	578
CNEL:	62	134	288	621

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Martin to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,910 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,395 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.7	67.8	64.7	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	230	496
CNEL:	53	115	247	533

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Campus Drive
Job Number: 15937
Road Segment: Culver Drive to Paseo Montoya (Turtle Rock Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,918 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,313 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	238	512

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Von Karman Avenue to Teller Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,558 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,201 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	208	449
CNEL:	48	104	224	482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: MacArthur Boulevard to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,164	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,169	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	205	441
CNEL:	47	102	220	473

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Campus Drive
Road Segment: Teller Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,947 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	986 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	59.1	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.5	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	67.2	66.3	63.2	58.4	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	393
CNEL:	42	91	196	423

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Carlson Avenue
Road Segment: Michelson Drive to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,196 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,089 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.6	66.7	63.7	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	195	420
CNEL:	45	97	210	452

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Chinon
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,756 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	392 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.46	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-20.70	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-24.66	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.9	54.8	53.1	47.0	55.6	56.3
Medium Trucks:	50.7	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	54.0	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	58.8	58.0	54.0	50.1	58.6	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	14	30	65
CNEL:	7	15	32	70

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Creek Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,726	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	390	vehicles
Vehicle Speed:	25	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-20.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-24.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	51.9	50.2	44.1	52.7	53.3
Medium Trucks:	47.8	47.2	40.8	39.3	47.7	47.9
Heavy Trucks:	51.0	50.5	41.4	42.7	51.0	51.2
Vehicle Noise:	55.9	55.0	51.1	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	70
CNEL:	7	16	34	74

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,011 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,033 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.4	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.7	69.8	64.9	73.5	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	154	331	713	1,536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,757	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,930	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.13	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.09	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.3	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.6	69.7	64.8	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	303	654	1,408
CNEL:	151	326	703	1,515

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,014 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.18	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.06	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.02	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.3	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.6	72.7	69.8	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	307	661	1,424
CNEL:	153	330	711	1,532

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Scottsdale Drive to I-5 SB Off- Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,917 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,943 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.7	69.7	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	655	1,411
CNEL:	152	327	704	1,518

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: I-405 NB Off-Ramp to San Leandro

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,621 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,671 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.37	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.3	72.4	69.5	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	293	631	1,358
CNEL:	146	315	678	1,461

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: San Leandro to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,104 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,381 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	280	604	1,302
CNEL:	140	302	650	1,400

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Harvard Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,257 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,394 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	281	605	1,304
CNEL:	140	302	651	1,403

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Trabuco Road to Farwell Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,765 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,931 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.11	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.13	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.09	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.4	71.3	69.6	63.5	72.1	72.7
Medium Trucks:	65.8	65.1	58.8	57.2	65.7	65.9
Heavy Trucks:	65.8	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	74.0	73.1	70.1	65.2	73.8	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	154	331	713	1,537

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,477 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,247 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	127	275	592	1,275
CNEL:	137	295	637	1,371

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Main Street to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,071 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,131 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	270	581	1,252
CNEL:	135	290	625	1,346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Warner Avenue to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,906 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,035 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.2	70.9	71.5
Medium Trucks:	64.5	63.8	57.5	55.9	64.4	64.6
Heavy Trucks:	64.5	64.0	54.9	56.2	64.5	64.6
Vehicle Noise:	72.7	71.8	68.8	63.9	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	265	572	1,232
CNEL:	133	286	615	1,325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Walnut Avenue to Scottsdale Dive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,151 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,972 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.4	63.8	57.4	55.9	64.3	64.6
Heavy Trucks:	64.5	63.9	54.9	56.1	64.5	64.6
Vehicle Noise:	72.6	71.7	68.7	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	263	566	1,219
CNEL:	131	283	609	1,312

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,911 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.09	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	64.4	63.7	57.3	55.8	64.3	64.5
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.6	71.6	68.7	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	260	560	1,207
CNEL:	130	280	603	1,298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Shady Canyon Drive to Palo Verde

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,657 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,199 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	54.9	63.4	63.6
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	788
CNEL:	85	183	394	848

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Deerfield Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,374 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,661 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	249	536	1,155
CNEL:	124	268	577	1,242

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Sandburg Way to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,140 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,642 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,151
CNEL:	124	267	575	1,238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,966 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,545 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	63.9	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.1	71.2	68.3	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	243	525	1,130
CNEL:	122	262	564	1,216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Palo Verde to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,255 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,001 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	344	740
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: University Drive to Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,840	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,369	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	235	507	1,093
CNEL:	118	253	546	1,175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Farwell Avenue to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,881 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,868 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.05	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.19	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.14	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	262	564	1,215
CNEL:	131	282	607	1,307

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Campus Drive to High School

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,865	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,289	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.7	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	232	499	1,075
CNEL:	116	249	537	1,157

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: High School to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,227	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,236	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.9	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	494	1,064
CNEL:	114	247	531	1,144

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Bryan Avenue to Florence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,221 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,071 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.05	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.19	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.0	69.7	70.3
Medium Trucks:	63.3	62.7	56.3	54.7	63.2	63.4
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	221	477	1,027
CNEL:	110	238	513	1,105

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Portola Parkway to Settlers

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,951 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,811 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	321	692
CNEL:	74	161	346	745

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Florence to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,398	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,003	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.6	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	470	1,012
CNEL:	109	235	505	1,089

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Irvine Boulevard to Viewpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,898	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,302	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	847
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Viewpark to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,143	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,239	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.1	69.2	66.3	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	832
CNEL:	90	193	415	895

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Settlers to Furrow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,730	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	968	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.0	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	68.1	67.2	64.3	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	98	212	456
CNEL:	49	106	228	491

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Culver Drive
Road Segment: Meadowood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,462 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,606 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.77	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.6
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	309	667
CNEL:	72	154	333	717

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Discovery Drive
Road Segment: Irvine Center Drive to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,370 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	773 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.1
Medium Trucks:	55.7	55.0	48.6	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	107	231
CNEL:	25	53	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Discovery Drive
Road Segment: Waterworks Way to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,968 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	410 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-22.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	52.9	52.3	45.9	44.3	52.8	53.0
Heavy Trucks:	54.2	53.7	44.6	45.9	54.2	54.3
Vehicle Noise:	61.0	60.1	56.8	52.2	60.8	61.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	70	152
CNEL:	16	35	75	162

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: East Yale Loop
Road Segment: Alton Parkway to Witherspoon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,294 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,097 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.2	64.3	61.1	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	292
CNEL:	31	67	145	313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: East Yale Loop
Road Segment: Osborn Street to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,601 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,040 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.0	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.8	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	282
CNEL:	30	65	140	302

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: East Yale Loop
Road Segment: Yale Avenue to Springbrook South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,442	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	944	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.88	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.5	59.7	53.7	62.3	62.9
Medium Trucks:	56.5	55.9	49.5	48.0	56.4	56.7
Heavy Trucks:	57.9	57.3	48.2	49.5	57.8	58.0
Vehicle Noise:	64.6	63.7	60.4	55.9	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	123	264
CNEL:	28	61	131	283

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: East Yale Loop
Road Segment: Springbrook North to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,475 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	699 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.99	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	60.2	58.4	52.4	61.0	61.6
Medium Trucks:	55.2	54.6	48.2	46.7	55.1	55.4
Heavy Trucks:	56.6	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.3	62.4	59.1	54.6	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	100	216
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: East Yale Loop
Road Segment: Woodspring to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,005 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	578 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	54.4	53.7	47.4	45.8	54.3	54.5
Heavy Trucks:	55.7	55.1	46.1	47.4	55.7	55.8
Vehicle Noise:	62.5	61.6	58.3	53.7	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	88	191
CNEL:	20	44	95	204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: East Yale Loop
Road Segment: Barranca Parkway to Eastshore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,576 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	543 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	55.5	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.2	61.3	58.0	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Eastwood
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,185 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	263 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.66	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.90	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.86	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.3	57.2	55.4	49.4	58.0	58.6
Medium Trucks:	52.5	51.8	45.5	43.9	52.4	52.6
Heavy Trucks:	54.3	53.8	44.7	46.0	54.3	54.5
Vehicle Noise:	60.5	59.6	56.2	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	85
CNEL:	9	20	42	91

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Eastwood
Road Segment: Columbus to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,983 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	164 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.72	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-25.96	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-29.92	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.2	55.2	53.4	47.3	56.0	56.6
Medium Trucks:	50.4	49.8	43.4	41.9	50.3	50.6
Heavy Trucks:	52.3	51.7	42.7	43.9	52.3	52.4
Vehicle Noise:	58.4	57.6	54.1	49.7	58.3	58.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	62
CNEL:	7	14	31	66

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: El Camino Real
Road Segment: Jamboree Road to Alliance (SR-261 Bridge)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,240 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,587 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.8	65.9	62.7	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	374
CNEL:	40	86	186	400

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: El Camino Real North
Road Segment: El Camino Real to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,482 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	535 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.3	51.2	59.8	60.5
Medium Trucks:	54.1	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	57.9	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Fairbanks
Road Segment: Alton Parkway to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,127 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,496 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.31	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-16.93	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-20.89	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.4	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	69.5	68.6	65.3	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	336
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Fairbanks
Road Segment: Irvine Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,449 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	780 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.52	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.76	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.72	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	66.6	65.7	62.5	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	217
CNEL:	23	50	108	233

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Fairchild Road
Road Segment: MacArthur Boulevard to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,131 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	588 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.6	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.8	62.9	59.7	55.1	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	109	234
CNEL:	25	54	117	251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Gateway Boulevard
Road Segment: Alton Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,949 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,316 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-16.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-20.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.7	51.6	60.2	60.9
Medium Trucks:	55.0	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	63.0	62.1	58.5	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	208
CNEL:	22	48	103	222

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Gateway Boulevard
Job Number: 15937
Road Segment: Spectrum Center Drive (Fortune Drive) to Alton Parkway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,089 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	997 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.3	58.2	56.5	50.4	59.0	59.6
Medium Trucks:	53.8	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	61.8	60.9	57.3	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	173
CNEL:	18	40	86	184

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Gateway Boulevard
Road Segment: Irvine Center Drive to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,154 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	508 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-3.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-20.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-24.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.3	53.5	47.5	56.1	56.7
Medium Trucks:	50.9	50.2	43.8	42.3	50.8	51.0
Heavy Trucks:	53.3	52.8	43.7	45.0	53.3	53.5
Vehicle Noise:	58.9	58.0	54.4	50.2	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	110
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Great Park Boulevard
Road Segment: Sand Canyon to Ridge Valley

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,334 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,658 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.22	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.02	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.97	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.8
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.5	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.2	73.3	70.2	65.4	74.0	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	238	513	1,105
CNEL:	119	256	551	1,187

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Great Park Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,850 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	599
CNEL:	64	139	299	643

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Great Park Boulevard (EB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,353 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	689 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.03	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.26	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.22	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.6	67.2
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	68.5	67.6	64.5	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	134	289
CNEL:	31	67	144	311

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Great Park Boulevard (WB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	616 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.51	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.75	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.70	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	269
CNEL:	29	62	134	289

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: University Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,728	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,875	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	12	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	37.5	feet
Centerline Dist. to Observer:	37.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.78	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-16.46	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-20.41	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.5	63.9	54.8	56.1	64.5	64.6
Vehicle Noise:	71.7	70.8	67.7	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	220	473
CNEL:	51	109	236	508

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Michelson Drive to Coronado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,921 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,551 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	70.2	69.3	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	668

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: San Marino to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,966 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,390 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.9	69.0	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	128	277	596
CNEL:	64	138	297	639

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Coronado to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,783 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,375 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.9	68.9	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	593
CNEL:	64	137	295	637

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: San Carlo to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,293 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,334 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.5	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	69.8	68.9	65.7	61.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	587
CNEL:	63	136	292	629

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Main Street to San Carlo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,778	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,292	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.6	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	62.5	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	69.7	68.8	65.6	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	269	580
CNEL:	62	134	289	622

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Alton Parkway to San Leon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	239	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: San Juan to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	239	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: San Leon to San Juan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,663 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.1	60.5	51.4	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,465 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,276 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.2	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	182	392
CNEL:	42	91	195	421

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Deerfield Avenue to Poplar Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,254 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	416

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,010 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,403 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	418
CNEL:	45	97	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Bridge Road to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,880 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,393 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.0
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	193	416
CNEL:	45	96	207	446

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Paseo Westpark to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,982 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,401 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.72	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.68	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	417
CNEL:	45	96	208	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Poplar Street to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,278 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,095 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.56	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-18.79	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-22.75	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.4	67.0
Medium Trucks:	60.4	59.7	53.3	51.8	60.3	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	178	383
CNEL:	41	88	191	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: California Avenue to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,831 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,224 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.7	59.2	50.1	51.4	59.7	59.8
Vehicle Noise:	67.0	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	381
CNEL:	41	88	190	409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Culver Drive to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,731 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,215 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.5
Medium Trucks:	58.9	58.2	51.8	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	380
CNEL:	41	88	189	407

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Berkeley to Bridge Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,456 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,193 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	66.9	66.0	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	375
CNEL:	40	87	187	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Harvard Avenue
Road Segment: Warner Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,282 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,096 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Hicks Canyon Drive
Road Segment: Delamesa to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,206 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.26	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	75.75	-25.50	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	81.57	-29.45	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	50.0	49.3	42.9	41.4	49.9	50.1
Heavy Trucks:	51.8	51.2	42.2	43.5	51.8	51.9
Vehicle Noise:	58.0	57.1	53.7	49.3	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Hornet (5th St)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,383 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	279 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.94	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-22.18	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-26.13	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.4	53.4	51.6	45.5	54.2	54.8
Medium Trucks:	49.3	48.6	42.2	40.7	49.2	49.4
Heavy Trucks:	52.5	51.9	42.9	44.1	52.5	52.6
Vehicle Noise:	57.3	56.5	52.6	48.6	57.2	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	52
CNEL:	6	12	26	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Hubble
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,333 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	192 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.55	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.79	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.75	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.8	51.8	50.0	43.9	52.6	53.2
Medium Trucks:	47.7	47.0	40.6	39.1	47.5	47.8
Heavy Trucks:	50.9	50.3	41.2	42.5	50.8	51.0
Vehicle Noise:	55.7	54.9	51.0	47.0	55.5	55.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	41
CNEL:	4	9	20	43

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: SR-133 NB Off- Ramp to Ridge Valley (O Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,105	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,474	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	72.0	71.1	68.2	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	240	518	1,115
CNEL:	120	258	557	1,200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: SR-133 SB Off-Ramp to SR-133 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,055 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,387 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.7	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.9	71.0	68.1	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	236	509	1,096
CNEL:	118	254	547	1,179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Sand Canyon to SR-133 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,768 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.94	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.30	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.26	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.1	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	257	554	1,194
CNEL:	128	277	596	1,285

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Merit to Alton

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.3	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,001
CNEL:	108	232	500	1,077

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Journey to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,929 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	214	462	995
CNEL:	107	231	497	1,071

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,235 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,659 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.43	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.81	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.4	62.7	62.8
Vehicle Noise:	70.9	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	433	933
CNEL:	100	216	466	1,004

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Pusan Way to Chinon (B Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,080 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Palo Lado to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,566 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,604 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	920
CNEL:	99	213	459	990

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Culver Drive to Palo Lado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,307 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,583 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.5
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.8	69.8	66.9	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	197	425	915
CNEL:	98	212	457	985

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,683 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,531 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	419	903
CNEL:	97	209	451	971

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Old Myford Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,767	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,538	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.22	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	70.7	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	420	905
CNEL:	97	210	452	973

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Bosque (LY Street) to Modjeska

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,546 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,520 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	97	209	450	968

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Jamboree Road to Old Myford Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,131 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,486 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.4	61.9	52.8	54.1	62.4	62.5
Vehicle Noise:	70.6	69.7	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	414	892
CNEL:	96	207	445	960

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Market Place to SR-261 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,014 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,476 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.6	69.7	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	890
CNEL:	96	206	444	957

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Jeffrey Road to Groveland

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,333 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,420 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.5	69.6	66.6	61.7	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	876
CNEL:	94	203	438	943

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Bake Parkway to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,433 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,346 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.3	69.4	66.5	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	398	858
CNEL:	92	199	429	923

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Independence Way (The Groves)/The Groves to JeffreyRoad

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,351 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.30	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	859
CNEL:	92	199	429	925

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Chinon (B Street) to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: SR-261 NB Off-Ramp to Central Park

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,539 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,272 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	840
CNEL:	90	195	420	904

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Pueblo Norte to Independence Way (The Groves)/ Parkwood

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,740 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,206 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.1	69.1	66.2	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	824
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Yale Avenue to Pueblo Norte

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,562 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,191 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.0	69.1	66.2	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	820
CNEL:	88	190	410	882

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Modjeska to Pusan Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,148 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Central Park Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,022 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,982 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.5	60.9	51.8	53.1	61.4	61.6
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	767
CNEL:	83	178	383	825

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Parker to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,245	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,835	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	69.3	68.3	65.4	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	729
CNEL:	78	169	364	784

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Boulevard
Road Segment: Alton Parkway to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,955 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,481 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.3	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	632
CNEL:	68	146	315	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Irvine Center Drive
Job Number: 15937
Road Segment: Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,614 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,258 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.88	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.35	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.31	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.2	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.3	71.4	68.3	63.5	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	110	238	512	1,104
CNEL:	119	256	550	1,186

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Orange Tree to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,747 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,939 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.69	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.5	63.8	63.9
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	223	480	1,033
CNEL:	111	239	515	1,110

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: I-405 SB Off-Ramp to Research

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,681 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,851 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.45	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.79	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.75	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.7	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	64.1	63.6	54.5	55.8	64.1	64.3
Vehicle Noise:	71.9	70.9	67.9	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	222	479	1,032
CNEL:	111	239	515	1,109

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Irvine Valley College to Orange Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,642 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,848 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.7	63.1	54.1	55.4	63.7	63.8
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	219	472	1,017
CNEL:	109	235	507	1,093

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Fontaine Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,165 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,644 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.7	60.6	69.3	69.9
Medium Trucks:	63.1	62.4	56.0	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.2	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	211	455	981
CNEL:	105	227	489	1,054

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Culver Drive to Deerwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,788 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,612 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.02	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.5	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	71.2	70.3	67.2	62.4	71.0	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	210	453	975
CNEL:	105	226	486	1,048

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Deerwood to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,331 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,575 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.07	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.5	69.2	69.8
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	968
CNEL:	104	224	483	1,041

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Yale Avenue to Fontaine Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,453 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,585 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	970
CNEL:	104	225	484	1,042

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Jeffrey Road to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,819 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,533 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.9	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.1	70.2	67.1	62.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	446	961
CNEL:	103	222	479	1,032

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Alton Parkway to Spectrum

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,703 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,276 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	197	424	914
CNEL:	98	211	456	982

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Spectrum to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,224 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,236 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	906
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Hearthstone to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,396 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,168 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.6	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	415	893
CNEL:	96	207	446	960

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Charter to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,432 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,006 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	863
CNEL:	93	200	430	927

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Jamboree Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,892 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.9
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	841
CNEL:	90	195	419	903

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Pacifica to Entertainment (Enterprise/Fortune)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,060 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,892 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.9
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	841
CNEL:	90	195	419	904

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,045 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,891 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.20	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.04	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.9
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	390	841
CNEL:	90	195	419	903

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Harvard Avenue to Hearthstone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,966 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,720 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	375	807
CNEL:	87	187	403	867

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Research to Hubble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,654 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,446 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	752
CNEL:	81	174	375	808

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Barranca Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,054 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,479 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.53	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.70	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.66	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	352	759
CNEL:	82	176	378	815

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,430 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,428 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.4	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	80	173	373	804

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Discovery to Charter

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,216 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,493 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.8	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.3	52.2	53.5	61.8	62.0
Vehicle Noise:	69.6	68.6	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	762
CNEL:	82	176	380	818

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,897 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,301 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.1	60.4	54.0	52.5	61.0	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.3	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	156	335	722
CNEL:	78	167	360	776

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Muller to Tesla

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,594 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,194 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.00	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.23	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.19	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.7
Medium Trucks:	60.9	60.2	53.8	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.0	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	151	325	699
CNEL:	75	162	349	751

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Sand Canyon Avenue to Odyssey

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,885 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,136 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.89	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	60.8	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.1	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	687
CNEL:	74	159	343	738

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Tesla to Scientific Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,586 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,028 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.6
Heavy Trucks:	60.9	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.7	67.7	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	664
CNEL:	71	154	331	713

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Scientific Way to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,463 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,936 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.4
Heavy Trucks:	60.7	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.5	67.5	64.5	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	643
CNEL:	69	149	321	691

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Gateway Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,763 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,878 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	631
CNEL:	68	146	314	677

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Laguna Canyon Road to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,810 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,882 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	60.6	60.0	51.0	52.3	60.6	60.7
Vehicle Noise:	68.3	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	631
CNEL:	68	146	315	678

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive
Road Segment: Odyssey to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,449 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,852 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.6	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.3	67.4	64.3	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	135	290	625
CNEL:	67	145	312	671

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Irvine Center Drive (Edinger)
Road Segment: Redhill Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,705 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,193 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.60	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	417	898
CNEL:	97	208	448	965

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: I-5 SB Off-Ramp to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,825 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,761 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.1	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	73.3	70.4	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	156	337	725	1,562
CNEL:	168	362	780	1,681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	80,926	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	6,676	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.42	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-11.82	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-15.77	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.7	72.7	70.9	64.8	73.5	74.1
Medium Trucks:	67.1	66.4	60.1	58.5	67.0	67.2
Heavy Trucks:	67.1	66.6	57.5	58.8	67.1	67.2
Vehicle Noise:	75.3	74.4	71.4	66.5	75.1	75.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	175	377	811	1,748
CNEL:	188	405	873	1,881

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Walnut Avenue to Michelle Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,211 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,967 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.1	71.8	72.4
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.6	72.7	69.7	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	305	657	1,415
CNEL:	152	328	707	1,523

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: I-405 NB Off-Ramp to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,354 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,712 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.45	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.79	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-15.75	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.1	74.1	72.3	66.2	74.9	75.5
Medium Trucks:	68.5	67.8	61.5	59.9	68.4	68.6
Heavy Trucks:	68.5	68.0	58.9	60.2	68.5	68.6
Vehicle Noise:	76.7	75.8	72.8	67.9	76.5	77.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	271	584	1,258	2,709
CNEL:	291	628	1,353	2,915

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Michelle Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,379 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,651 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.5	65.0	65.2
Heavy Trucks:	65.2	64.6	55.5	56.8	65.1	65.3
Vehicle Noise:	73.3	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	135	292	629	1,355
CNEL:	146	314	676	1,457

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Main Street to Kelvin Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	70,210	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,792	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.81	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.43	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.39	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.5	73.4	71.6	65.6	74.2	74.8
Medium Trucks:	67.9	67.2	60.8	59.3	67.8	68.0
Heavy Trucks:	67.9	67.3	58.3	59.5	67.9	68.0
Vehicle Noise:	76.1	75.1	72.2	67.3	75.9	76.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	246	529	1,140	2,456
CNEL:	264	569	1,226	2,642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	86,971 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,175 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	130 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	88.792
Medium Trucks:	88.747
Heavy Trucks:	88.792

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.74	-3.84	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.50	-3.84	-1.20	*-4.96*	0.000	0.000
Heavy Trucks:	86.40	-15.46	-3.84	-1.20	*-5.14*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.6	63.6	72.2	72.8
Medium Trucks:	65.9	65.2	58.8	57.3	65.7	66.0
Heavy Trucks:	65.9	65.3	56.3	57.5	65.9	66.0
Vehicle Noise:	74.1	73.1	70.2	65.3	73.8	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	428	922	1,986
CNEL:	214	460	992	2,136

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Kelvin Avenue to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,064	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,368	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.48	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.76	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.72	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.1	73.1	71.3	65.3	73.9	74.5
Medium Trucks:	67.5	66.9	60.5	59.0	67.4	67.7
Heavy Trucks:	67.6	67.0	57.9	59.2	67.5	67.7
Vehicle Noise:	75.7	74.8	71.8	67.0	75.5	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	233	503	1,084	2,334
CNEL:	251	541	1,166	2,511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	64,320 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,306 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.43	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.81	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.77	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.1	73.0	71.3	65.2	73.8	74.4
Medium Trucks:	67.5	66.8	60.5	58.9	67.4	67.6
Heavy Trucks:	67.5	66.9	57.9	59.1	67.5	67.6
Vehicle Noise:	75.7	74.7	71.8	66.9	75.5	75.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	232	499	1,075	2,317
CNEL:	249	537	1,157	2,492

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Birch Street to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,363 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,990 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.01	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.5	63.8	57.4	55.9	64.3	64.6
Heavy Trucks:	64.5	63.9	54.9	56.1	64.5	64.6
Vehicle Noise:	72.6	71.7	68.8	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	263	568	1,223
CNEL:	132	283	611	1,316

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,185 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,470 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.68	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.56	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.51	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.1	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.3	56.8	65.2	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.6	69.7	64.8	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	134	288	621	1,338
CNEL:	144	310	668	1,439

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Alton Parkway to Beckman

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,506	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,827	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.01	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.22	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.18	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.7	72.6	70.9	64.8	73.4	74.0
Medium Trucks:	67.1	66.4	60.0	58.5	67.0	67.2
Heavy Trucks:	67.1	66.5	57.5	58.7	67.1	67.2
Vehicle Noise:	75.3	74.3	71.4	66.5	75.1	75.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	217	469	1,009	2,175
CNEL:	234	504	1,086	2,340

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Fairchild Road to Birch Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,498	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,084	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.29	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.95	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.91	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.8	62.7	71.3	71.9
Medium Trucks:	65.0	64.3	57.9	56.4	64.9	65.1
Heavy Trucks:	65.0	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	73.2	72.2	69.3	64.4	73.0	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	126	271	585	1,260
CNEL:	136	292	629	1,355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Beckman to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,535	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,499	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.71	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.53	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.49	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.4	72.3	70.5	64.5	73.1	73.7
Medium Trucks:	66.8	66.1	59.7	58.2	66.7	66.9
Heavy Trucks:	66.8	66.2	57.2	58.4	66.8	66.9
Vehicle Noise:	75.0	74.0	71.1	66.2	74.8	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	208	447	963	2,075
CNEL:	223	481	1,036	2,233

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: I-5 NB Off-Ramp to El Camino Real

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,710 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,349 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	66.0	59.6	58.0	66.5	66.7
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	942	2,029
CNEL:	218	470	1,013	2,182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Campus Drive to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,590 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,761 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.93	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.31	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.26	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	257	554	1,192
CNEL:	128	276	595	1,283

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: El Camino Real to West Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,446	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,244	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.78	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.74	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.1	70.3	64.2	72.9	73.5
Medium Trucks:	66.5	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	66.5	66.0	56.9	58.2	66.5	66.7
Vehicle Noise:	74.7	73.8	70.8	65.9	74.5	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	200	430	927	1,996
CNEL:	215	463	997	2,147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: West Drive to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,319 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,234 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.44	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.79	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.75	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.1	70.3	64.2	72.9	73.5
Medium Trucks:	66.5	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	66.5	66.0	56.9	58.2	66.5	66.6
Vehicle Noise:	74.7	73.8	70.8	65.9	74.5	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	429	925	1,993
CNEL:	214	462	995	2,144

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,722 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,937 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.13	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.11	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.06	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	70.0	63.9	72.5	73.1
Medium Trucks:	66.2	65.5	59.2	57.6	66.1	66.3
Heavy Trucks:	66.2	65.6	56.6	57.8	66.2	66.3
Vehicle Noise:	74.4	73.5	70.5	65.6	74.2	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	190	409	881	1,899
CNEL:	204	440	948	2,043

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Koll Center to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,698	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,440	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.54	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.70	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.65	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.2	63.6	57.2	55.6	64.1	64.3
Heavy Trucks:	64.3	63.7	54.6	55.9	64.2	64.4
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	522	1,124
CNEL:	121	260	561	1,209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: MacArthur Boulevard to Koll Center

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,222 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,401 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.49	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.74	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.70	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	68.0	61.9	70.5	71.1
Medium Trucks:	64.2	63.5	57.1	55.6	64.1	64.3
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	72.4	71.4	68.5	63.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	240	518	1,115
CNEL:	120	258	557	1,200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Irvine Boulevard to Portola Pakway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,193 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,408 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.24	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.5	69.5	66.6	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	873
CNEL:	94	202	436	940

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Warner Avenue to Edinger Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	87,026 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,180 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.74	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-11.50	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-15.46	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	77.3	76.2	74.5	68.4	77.0	77.6
Medium Trucks:	70.7	70.0	63.6	62.1	70.6	70.8
Heavy Trucks:	70.7	70.1	61.1	62.3	70.7	70.8
Vehicle Noise:	78.9	77.9	75.0	70.1	78.7	79.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	242	521	1,123	2,419
CNEL:	260	561	1,208	2,602

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Barranca Parkway to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	71,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,896 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.88	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.35	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.31	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.4	75.4	73.6	67.5	76.2	76.8
Medium Trucks:	69.8	69.2	62.8	61.2	69.7	69.9
Heavy Trucks:	69.9	69.3	60.2	61.5	69.8	70.0
Vehicle Noise:	78.0	77.1	74.1	69.3	77.8	78.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	212	457	985	2,121
CNEL:	228	492	1,059	2,282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jamboree Road
Road Segment: Edinger Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,484 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.57	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.67	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.63	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.1	75.1	73.3	67.2	75.9	76.5
Medium Trucks:	69.5	68.8	62.5	60.9	69.4	69.6
Heavy Trucks:	69.5	68.9	59.9	61.2	69.5	69.6
Vehicle Noise:	77.7	76.8	73.8	68.9	77.5	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	435	938	2,021
CNEL:	217	468	1,009	2,174

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Walnut Avenue to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,850 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,608 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.8	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	71.1	70.2	67.0	62.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	447	963
CNEL:	103	223	479	1,033

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: I-5 NB Off-Ramp to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,333 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,142 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.16	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.08	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.03	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.2	69.9	70.5
Medium Trucks:	63.9	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.7	64.1	55.1	56.4	64.7	64.8
Vehicle Noise:	72.0	71.1	67.9	63.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	488	1,051
CNEL:	113	243	523	1,127

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Poplar (Meadows) to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,514 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,167 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.2
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.6	69.7	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	97	208	448	966

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,193 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,058 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	191	411	885
CNEL:	95	204	441	949

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Irvine Center Drive to Poplar (Meadows)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,338 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.4	61.7	55.3	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.5	69.5	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	406	874
CNEL:	94	202	435	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: I-405 NB Off-Ramp to Quail Creek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,513 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,002 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	70.5	69.6	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	877
CNEL:	94	203	436	940

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Barranca Parkway to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,090	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,885	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.25	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	859
CNEL:	92	199	428	922

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Quail Creek to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,231 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,897 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.6	68.3	68.9
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.4	69.4	66.3	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	861
CNEL:	92	199	429	924

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Irvine Valley College to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,501 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,671 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	384	828
CNEL:	89	191	412	888

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Trabuco Road to Hideaway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,737 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,113 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.98	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.26	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	741
CNEL:	80	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Hideaway to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,660 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,107 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.97	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.27	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.22	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.4	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	740
CNEL:	79	171	369	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Roosevelt to Grove

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,485 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,340 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.29	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.95	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.91	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	788
CNEL:	85	182	392	845

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Grove to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,079 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,224 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.13	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.11	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.06	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	770
CNEL:	83	178	383	826

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Bryan Avenue to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,761 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,373 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.2	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	66	143	308	664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Encore to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,646 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,291 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.84	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.7	60.9	54.8	63.5	64.1
Medium Trucks:	57.5	56.8	50.4	48.9	57.4	57.6
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.6	64.6	61.5	56.8	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	191	412
CNEL:	44	95	205	442

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeffrey Road
Road Segment: Irvine Boulevard to Encore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,564 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,202 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.39	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.8
Medium Trucks:	57.2	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	182	393
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeronimo Road
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,085 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	667 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	56.3	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.1	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	64.3	63.4	60.3	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	55	118	255
CNEL:	27	59	127	273

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Jeronimo Road
Road Segment: Alton Parkway to Goodyear

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,560 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	624 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.4	53.3	62.0	62.6
Medium Trucks:	56.0	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	56.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.0	63.1	60.0	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	261

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Old Laguna Canyon Road to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,557 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,336 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.55	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.69	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.65	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.4	68.6	62.5	71.2	71.8
Medium Trucks:	64.8	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	64.9	64.3	55.2	56.5	64.8	65.0
Vehicle Noise:	73.0	72.1	69.1	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	129	278	600	1,293
CNEL:	139	300	645	1,391

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Laguna Canyon Freeway to Quail Hill Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,659 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,374 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.7	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	576
CNEL:	62	134	288	620

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Discovery to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,807 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,139 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.7	60.0	53.6	52.1	60.6	60.8
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.9	67.9	65.0	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	236	508
CNEL:	55	118	254	547

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: I-405 Overcrossing to Pasteur

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,507 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	702 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.95	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.18	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.14	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	67.7	66.7	63.7	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	157	339
CNEL:	36	78	169	364

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Irvine Center Drive to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,537 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	787 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.1	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	67.2	66.3	63.4	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	184	397
CNEL:	43	92	198	427

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Quail Hill Parkway to I-405 Overcrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,507 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	702 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.95	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.18	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.14	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	67.7	66.7	63.7	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	157	339
CNEL:	36	78	169	364

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Pasteur to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,352 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	689 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	66.7	65.7	62.8	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	364
CNEL:	39	84	182	391

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Waterworks to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,386 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	609 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	66.1	65.2	62.3	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	335
CNEL:	36	78	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,866 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	566 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	57.6	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	57.7	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	65.8	64.9	61.9	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	148	319
CNEL:	34	74	159	343

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Laguna Canyon Road
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,179 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	510 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.7	61.0	54.9	63.5	64.1
Medium Trucks:	57.2	56.5	50.1	48.6	57.1	57.3
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	65.4	64.4	61.5	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	149	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Lake Forest Drive
Road Segment: Hidden Canyon to Laguna Canyon Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,345 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,513 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	53.0	61.3	61.4
Vehicle Noise:	69.0	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	113	243	524
CNEL:	56	121	261	562

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Lake Forest Drive
Road Segment: Bake Parkway to Hidden Canyon (Romano)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,195 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,501 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	60.9	60.2	53.8	52.3	60.8	61.0
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	69.0	68.1	65.0	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	521
CNEL:	56	121	260	559

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Lake Forest Drive
Road Segment: Tesla to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,505 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,114 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.94	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-19.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-23.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.0
Heavy Trucks:	58.3	57.8	48.7	50.0	58.3	58.5
Vehicle Noise:	66.1	65.1	62.1	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	207	445
CNEL:	48	103	222	478

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Lake Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,138 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	506 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.35	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	70.80	-19.59	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	77.97	-23.55	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.1	55.0	53.3	47.2	55.8	56.4
Medium Trucks:	50.9	50.3	43.9	42.3	50.8	51.0
Heavy Trucks:	54.1	53.5	44.5	45.8	54.1	54.2
Vehicle Noise:	59.0	58.1	54.2	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Lynx
Road Segment: Irvine Boulevard to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,253 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	103 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-9.25	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-26.49	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-30.45	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.1	49.1	47.3	41.2	49.9	50.5
Medium Trucks:	45.0	44.3	37.9	36.4	44.8	45.1
Heavy Trucks:	48.2	47.6	38.5	39.8	48.1	48.3
Vehicle Noise:	53.0	52.2	48.3	44.3	52.8	53.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	12	27
CNEL:	3	6	13	29

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: I-405 SB Off-Ramp to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,659 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,004 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.79	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.45	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.9	73.8	72.1	66.0	74.6	75.2
Medium Trucks:	68.1	67.5	61.1	59.6	68.0	68.3
Heavy Trucks:	67.8	67.2	58.2	59.4	67.8	67.9
Vehicle Noise:	76.4	75.4	72.6	67.6	76.2	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	258	556	1,198	2,581
CNEL:	278	599	1,291	2,780

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Main Street to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,198	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,966	vehicles
Vehicle Speed:	60	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.76	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.48	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.43	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.9	73.8	72.0	66.0	74.6	75.2
Medium Trucks:	68.1	67.4	61.1	59.5	68.0	68.2
Heavy Trucks:	67.8	67.2	58.2	59.4	67.8	67.9
Vehicle Noise:	76.4	75.4	72.5	67.6	76.1	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	257	553	1,192	2,568
CNEL:	277	596	1,284	2,766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: I-405 NB Off-Ramp and I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,267 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,890 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.69	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.55	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.50	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.8	73.7	72.0	65.9	74.5	75.1
Medium Trucks:	68.0	67.4	61.0	59.5	67.9	68.2
Heavy Trucks:	67.7	67.1	58.1	59.3	67.7	67.8
Vehicle Noise:	76.3	75.3	72.5	67.5	76.1	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	254	548	1,180	2,542
CNEL:	274	590	1,271	2,738

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Jamboree Road to Fairchild Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,283 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.6
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	357	768
CNEL:	82	178	382	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Fairchild Road to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,738	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,278	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	52.9	61.4	61.6
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	69.6	68.7	65.5	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	767
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Fitch to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,993 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,464 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.45	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.79	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.75	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.3	69.3	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	375	808
CNEL:	87	187	402	866

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Michelson Drive to Douglas

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,680 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,604 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.62	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.62	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.58	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.7	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	71.8	70.9	67.7	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	276	594	1,280
CNEL:	137	296	637	1,373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Douglas to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,619	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,599	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.61	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.63	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.58	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	71.8	70.9	67.7	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	276	594	1,279
CNEL:	137	296	637	1,372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Skypark to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,051 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,727 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.41	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.83	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.79	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.2
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	320	688
CNEL:	74	159	343	738

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Redhill Avenue to Skypark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,961 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,307 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.8	60.3	51.2	52.5	60.8	60.9
Vehicle Noise:	68.1	67.2	64.0	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	607
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Birch Street to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,454 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,687 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	229	493
CNEL:	53	114	245	529

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: MacArthur Boulevard
Road Segment: Campus Drive to Birch Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,933	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,892	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.82	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-16.42	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-20.38	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.9	60.3	53.9	52.3	60.8	61.0
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.0	68.1	64.9	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	387	833
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Gillette Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,129 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,641 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.66	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.58	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.53	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	70.5	69.6	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	387	835
CNEL:	90	193	416	895

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: MacArthur Boulevard to Mercantile

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,170 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,231 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.14	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.10	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.05	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.0	69.0	65.9	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	771
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Executive Park to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,179	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,325	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.4	53.0	51.5	59.9	60.1
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.1	67.2	64.1	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	610
CNEL:	65	141	304	655

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Von Karman Avenue to Cartwright

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,884 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,300 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.8	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	68.1	67.2	64.0	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	281	606
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: McDurmott to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,239 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,165 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.40	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.84	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.6	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	67.8	66.9	63.7	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	582
CNEL:	62	134	290	624

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Red Hill Avenue to Executive Circle

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,766 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,126 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	124	267	575
CNEL:	62	133	286	617

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Jamboree Road to Union

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,728	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,040	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	559
CNEL:	60	129	279	600

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,523 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,198 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.6	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	376
CNEL:	40	87	187	403

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Siglo to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,884 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,970 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.24	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.3	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	67.4	66.5	63.3	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	547
CNEL:	59	126	272	586

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Veneto to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,172 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,912 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.33	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.4	62.6	56.5	65.2	65.8
Medium Trucks:	59.2	58.5	52.1	50.6	59.1	59.3
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	67.3	66.4	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	57	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Paseo Westpark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,180 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,005 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Main Street
Road Segment: Harvard Avenue to San Mateo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,142 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,002 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	58.1
Heavy Trucks:	58.9	58.3	49.2	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Marine Way
Job Number: 15937
Road Segment: Sand Canyon Avenue to Ridge Valley (O Street)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,411 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,334 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.79	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	77.72	-13.45	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	82.99	-17.40	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.4
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	72.0	71.1	67.8	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	307	662
CNEL:	71	153	329	709

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: Alton Parkway to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,689 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,614 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.73	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	61.0	60.3	53.9	52.4	60.9	61.1
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.0	68.1	64.8	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	522
CNEL:	56	120	259	558

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: Lynx to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,229 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,659 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	61.0	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	69.1	68.2	64.9	60.4	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	527
CNEL:	56	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: County Access to Treble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,917 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,138 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	98	212	456
CNEL:	49	105	227	488

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: Ridge Valley (O Street) to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,039 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	67.9	67.0	63.8	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	205	442
CNEL:	47	102	220	473

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: Skyhawk to County Access

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,302 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,592 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.8	60.1	60.2
Vehicle Noise:	66.9	66.0	62.7	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	375
CNEL:	40	86	186	401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,824	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,470	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	58.5	57.8	51.4	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.3	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	355
CNEL:	38	82	177	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Marine Way
Road Segment: Treble to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,340 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,348 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	58.1	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.1	65.2	62.0	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	335
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: McGaw Avenue
Road Segment: Von Karman Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,868 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,144 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	56.0	55.3	49.0	47.4	55.9	56.1
Heavy Trucks:	57.9	57.3	48.2	49.5	57.8	58.0
Vehicle Noise:	64.0	63.1	59.7	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	242
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: McGaw Avenue
Road Segment: Red Hill Avenue to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,510 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,115 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	57.7	57.2	48.1	49.4	57.7	57.8
Vehicle Noise:	63.9	63.0	59.6	55.2	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	238
CNEL:	25	55	118	254

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: McGaw Avenue
Road Segment: Daimler to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,063 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	748 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.12	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.36	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.9	57.1	51.0	59.7	60.3
Medium Trucks:	54.2	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	62.2	61.3	57.8	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	182
CNEL:	19	42	90	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: McGaw Avenue
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,424 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	365 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-22.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-26.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.8	55.8	54.0	47.9	56.6	57.2
Medium Trucks:	51.0	50.4	44.0	42.5	50.9	51.2
Heavy Trucks:	52.9	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	59.0	58.2	54.7	50.3	58.9	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	121

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Meadowood
Road Segment: Culver Drive to Canyonwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	901 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.6	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	51.5	50.8	44.4	42.9	51.3	51.6
Heavy Trucks:	54.7	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	59.5	58.7	54.8	50.9	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Meridian
Road Segment: Spectrum to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,563 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	211 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-6.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.6	51.5	49.7	43.7	52.3	52.9
Medium Trucks:	47.1	46.4	40.0	38.5	46.9	47.2
Heavy Trucks:	49.5	49.0	39.9	41.2	49.5	49.7
Vehicle Noise:	55.1	54.2	50.6	46.4	54.9	55.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	62
CNEL:	7	14	30	66

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Meridian
Road Segment: Alton Parkway to Gateway Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,184 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	180 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.9	50.8	49.0	43.0	51.6	52.2
Medium Trucks:	46.4	45.7	39.3	37.8	46.3	46.5
Heavy Trucks:	48.8	48.3	39.2	40.5	48.8	49.0
Vehicle Noise:	54.4	53.5	49.9	45.7	54.2	54.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	55
CNEL:	6	13	27	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Merit
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,641 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	300 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.62	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-21.86	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-25.82	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.7	53.7	51.9	45.9	54.5	55.1
Medium Trucks:	49.6	48.9	42.6	41.0	49.5	49.7
Heavy Trucks:	52.8	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	57.6	56.8	52.9	49.0	57.5	57.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	12	25	55
CNEL:	6	13	27	58

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Riparian to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,218	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,080	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.4
Medium Trucks:	60.0	59.3	52.9	51.4	59.9	60.1
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.0	67.1	63.8	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	208	448
CNEL:	48	103	223	480

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Almond Tree Lane to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,910 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	818 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.31	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.55	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.51	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.8	65.9	62.7	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	224
CNEL:	24	52	112	240

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Von Karman Avenue to Obsidian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,682 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,954 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	67.7	66.8	63.6	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	199	429
CNEL:	46	99	213	460

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Parkside to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,374	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,846	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	67.5	66.6	63.3	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	414
CNEL:	44	95	206	443

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Gillman to Seton/Sandburg Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,165 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	756 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.65	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.85	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	58.5	57.8	51.4	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.3	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	99	213
CNEL:	23	49	106	228

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Carlson to Prince

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,061 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,232 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.05	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	77.72	-15.19	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	82.99	-19.15	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.0	66.1	62.9	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	462
CNEL:	49	107	230	495

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: MacArthur Boulevard to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,323 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,677 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.1	66.2	62.9	58.4	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	89	193	415

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Harvard Avenue to Parkside

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,916	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,478	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	357
CNEL:	38	82	177	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Bixby to Von Karman Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,607 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,453 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	66.5	65.6	62.3	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Jamboree Road to Carlson

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,486 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,103 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.79	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.45	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.41	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.4
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.4	68.5	65.2	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	529
CNEL:	57	122	263	566

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Teller to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,530	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,106	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.80	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.44	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.40	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.4	68.5	65.2	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	529
CNEL:	57	122	263	567

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Jordan East to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,719 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	554 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.00	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-21.24	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-25.20	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.6	58.0	51.6	50.0	58.5	58.7
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	66.6	65.7	62.5	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	38	81	174
CNEL:	19	40	87	186

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Michelson Drive
Road Segment: Culver Drive to Angell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,757 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	722 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.85	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.09	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	82.99	-24.05	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.9	61.1	55.0	63.7	64.3
Medium Trucks:	57.9	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	59.2	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	65.9	65.0	61.8	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	208
CNEL:	22	48	103	223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Modjeska (A Street)
Road Segment: Portola Springs to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,725 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,132 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	27.659
Medium Trucks:	27.514
Heavy Trucks:	27.659

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.41	3.75	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	79.45	-18.65	3.79	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	84.25	-22.61	3.75	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.4	70.5	67.4	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	363
CNEL:	39	84	181	390

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Modjeska (A Street)
Road Segment: South of Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,874 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	155 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.06	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-27.30	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-31.25	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	52.8	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	53.6	53.0	44.0	45.3	53.6	53.7
Vehicle Noise:	60.9	60.0	56.8	52.1	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	45	96

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Muirlands Boulevard
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,376	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,186	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	58.8	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	374
CNEL:	40	86	186	401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Muirlands Boulevard
Road Segment: Alton Parkway to Sterling

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Muirlands Boulevard
Road Segment: Wrigley to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Newport Coast Drive
Road Segment: SR-73 NB Off-Ramp to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,333	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,430	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.12	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.4	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.7	59.1	50.0	51.3	59.7	59.8
Vehicle Noise:	66.4	65.5	62.2	57.7	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	349
CNEL:	37	80	173	373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Newport Coast Drive
Road Segment: Turtle Crest to Bonita Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,101 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	998 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.45	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	64.8	63.9	60.7	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	275
CNEL:	29	63	136	294

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Nightmist
Road Segment: Sand Canyon Avenue to Tulip (Road C)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,630 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	959 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.1	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	53.6	53.0	46.6	45.1	53.5	53.7
Heavy Trucks:	56.1	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	61.6	60.8	57.1	53.0	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	78	169
CNEL:	18	39	83	180

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Northwood
Road Segment: Yale Avenue to Savannah

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	389 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.96	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-22.20	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.15	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.0	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	62.2	61.3	57.9	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	110
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Northwood
Road Segment: Goldrush to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,773 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	311 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.93	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.17	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.12	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.9	56.2	50.1	58.7	59.4
Medium Trucks:	53.2	52.6	46.2	44.7	53.1	53.4
Heavy Trucks:	55.1	54.5	45.5	46.7	55.1	55.2
Vehicle Noise:	61.2	60.4	56.9	52.5	61.1	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	44	95
CNEL:	10	22	47	101

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Oak Canyon Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,082 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	997 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.97	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.20	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.16	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.0	68.1	64.9	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	311
CNEL:	33	72	155	333

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Pacifica
Road Segment: Gateway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,406 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,023 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.9	56.2	49.9	48.3	56.8	57.0
Heavy Trucks:	58.2	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	64.9	64.0	60.8	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	130	279
CNEL:	30	64	139	299

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Pacifica
Road Segment: Alton Parkway to Gateway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,464 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	781 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.1	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.5	47.4	48.7	57.0	57.1
Vehicle Noise:	63.8	62.9	59.6	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Pacifica
Job Number: 15937
Road Segment: Irvine Center Drive to Fortune Drive (Spectrum Center Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,930 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	572 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.4	59.3	57.6	51.5	60.1	60.7
Medium Trucks:	54.4	53.7	47.3	45.8	54.3	54.5
Heavy Trucks:	55.7	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	62.4	61.5	58.2	53.7	62.2	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	88	189
CNEL:	20	44	94	203

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Pacifica
Road Segment: Meridian to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,476	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	369	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-23.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	57.4	55.7	49.6	58.2	58.8
Medium Trucks:	52.5	51.8	45.4	43.9	52.4	52.6
Heavy Trucks:	53.8	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	60.5	59.6	56.3	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	66	141
CNEL:	15	33	70	151

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Park Place
Road Segment: Christamon South to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,750 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	309 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.2	53.2	51.4	45.3	54.0	54.6
Medium Trucks:	48.7	48.0	41.7	40.1	48.6	48.8
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	56.7	55.9	52.2	48.0	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Portola Parkway
Job Number: 15937
Road Segment: Bee Canyon Access Road to Sand Canyon Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,011 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,981 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.1	62.4	56.0	54.5	63.0	63.2
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	71.3	70.3	67.4	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	158	341	735
CNEL:	79	170	367	791

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Jeffrey Road to Bee Canyon Access Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,959 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,977 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.1	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	71.2	70.3	67.4	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	734
CNEL:	79	170	367	790

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Arrowhead to Ridge Valley Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,161 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,911 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	62.9	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	71.1	70.2	67.2	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	333	718
CNEL:	77	166	358	772

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Sand Canyon Avenue to Arrowhead

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,291 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,757 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.9	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	315	679
CNEL:	73	157	339	730

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Portola Springs to SR-241 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,068 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,408 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.8	68.9	65.9	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	586
CNEL:	63	136	292	630

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Gatepark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,306 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,335 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.86	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.33	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.2
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	184	397	856
CNEL:	92	198	427	921

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: ETC-6 (SR-261) NB Off-Ramp to Gatepark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,985	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,309	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.38	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	394	849
CNEL:	91	197	424	914

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,082 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,234 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	831
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Jamboree Road to Bellevue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,213 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.9
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	61.9	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	70.1	69.2	66.2	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	383	826
CNEL:	89	191	412	888

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Bellevue to ETC-6 (SR-261) SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,584 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,193 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.0	69.1	66.2	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	821
CNEL:	88	190	410	883

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Yale Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,071 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,068 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.86	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.6	61.1	52.0	53.3	61.6	61.7
Vehicle Noise:	69.8	68.9	65.9	61.0	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	183	394	849

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Culver Drive to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,276 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,838 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.18	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.42	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.1	60.5	51.5	52.8	61.1	61.2
Vehicle Noise:	69.3	68.4	65.4	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	729
CNEL:	78	169	364	785

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Portola Parkway
Road Segment: Silverado to Portola Springs

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,067 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	996 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.84	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.08	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.0
Medium Trucks:	60.1	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	68.3	67.3	64.4	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	216	465
CNEL:	50	108	232	500

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Pusan
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,470 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	204 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.31	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.55	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.50	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.1	52.0	50.2	44.2	52.8	53.4
Medium Trucks:	47.9	47.2	40.9	39.3	47.8	48.0
Heavy Trucks:	51.1	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	55.9	55.1	51.2	47.3	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Quail Hill Parkway
Road Segment: Shady Canyon Drive to Passage

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,448 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,274 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.2	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	182	392
CNEL:	42	91	195	420

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Quail Hill Parkway
Road Segment: East Knollcrest to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,917 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	818 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.82	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	292
CNEL:	31	67	145	313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Quassar Drive (Spectrum)
Job Number: 15937
Road Segment: Irvine Center Drive to Spectrum Center Drive (Fortune)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,981 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	163 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.27	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.50	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	77.97	-28.46	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.7	50.7	48.9	42.8	51.5	52.1
Medium Trucks:	46.6	45.9	39.5	38.0	46.5	46.7
Heavy Trucks:	49.8	49.2	40.2	41.4	49.8	49.9
Vehicle Noise:	54.6	53.8	49.9	46.0	54.5	54.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	8	18	39

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: MacArthur Boulevard to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,189 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,646 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.1	62.4	56.0	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.2	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	211	455	981
CNEL:	105	227	489	1,054

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: I-405 Over Crossing to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,062 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,820 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	592
CNEL:	64	137	295	636

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: Alton Parkway to Deere Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,593 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	363	782
CNEL:	84	181	390	840

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,718 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,534 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.56	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	770
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: Deere Avenue to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,672 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,448 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.48	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.71	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	752
CNEL:	81	174	375	808

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: Skypark East to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,765 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.06	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.18	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.14	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.9	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	316	680
CNEL:	73	157	339	731

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Red Hill Avenue
Road Segment: Main Street to Skypark East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,423	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,520	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.59	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.83	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.78	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	615
CNEL:	66	142	307	661

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Research Drive
Road Segment: Hubble to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,938 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,057 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	250	539
CNEL:	58	125	269	579

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Research Drive
Road Segment: Scientific to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,327 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,264 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.5	56.4	65.0	65.6
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	390
CNEL:	42	90	194	418

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Research Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,774	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,054	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	58.2	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.3	65.4	62.3	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	74	160	345
CNEL:	37	80	172	370

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Research Drive
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,214	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	843	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.3	56.6	50.2	48.7	57.2	57.4
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	65.4	64.4	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Irvine Boulevard to Trabuco Road (Great Park Boulevard)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,874 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,227 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.8	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	67.0	66.1	62.9	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	382
CNEL:	41	88	190	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Ridge Valley (O Street)
Road Segment: Portola Parkway to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,231 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,009 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.1	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	335
CNEL:	36	78	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Trabuco Road (Great Park Boulevard) to Marine Way

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	918 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Ridge Valley (O Street)
Road Segment: Ranchland to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	936 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	77 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-13.07	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-30.31	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-34.27	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	55.0	53.2	47.1	55.8	56.4
Medium Trucks:	49.8	49.1	42.8	41.2	49.7	49.9
Heavy Trucks:	50.6	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	57.9	56.9	53.8	49.1	57.7	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	61

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Ridgeline Drive
Road Segment: Concordia East to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,053 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,324 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.36	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-16.88	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-20.83	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.5	59.8	53.4	51.9	60.4	60.6
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	68.5	67.6	64.1	59.8	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	143	307
CNEL:	33	71	152	328

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Ridgeline Drive
Road Segment: Turtle Rock Drive to San Simeon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,883 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,228 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.03	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.21	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.16	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.3
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	68.1	67.3	63.8	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	292
CNEL:	31	67	145	312

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Rockfield Avenue
Road Segment: Whatney to McLaren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,154 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,333 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.9
Medium Trucks:	59.3	58.6	52.2	50.7	59.2	59.4
Heavy Trucks:	60.1	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	67.3	66.4	63.3	58.6	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	87	187	404
CNEL:	43	93	201	433

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Rockfield Avenue
Road Segment: Bake Parkway to Whatney

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,259 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	599 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	56.6	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	63.9	63.0	59.8	55.1	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	237
CNEL:	25	55	118	254

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Rockfield Avenue
Road Segment: Thomas to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,672 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	468 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.25	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	54.7	54.1	47.7	46.1	54.6	54.8
Heavy Trucks:	55.6	55.0	45.9	47.2	55.5	55.7
Vehicle Noise:	62.8	61.9	58.7	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	93	201
CNEL:	22	46	100	216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Roosevelt
Road Segment: Jeffrey Road to Vision

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,664 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,375 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.2	57.5	51.1	49.6	58.1	58.3
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.2	65.3	62.0	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	340
CNEL:	36	78	169	364

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Roosevelt
Road Segment: Yale Avenue to Van Buren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,969 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	740 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.75	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-19.99	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-23.94	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.9	59.2	52.8	51.3	59.8	60.0
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	67.9	67.0	63.7	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	98	211
CNEL:	23	49	105	226

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Roosevelt
Road Segment: Vision to Bay Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,775 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,301 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.0	65.1	61.8	57.3	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	152	328
CNEL:	35	76	163	351

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Roosevelt
Road Segment: Nimitz to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,499	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,196	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.8	54.7	63.3	63.9
Medium Trucks:	57.6	56.9	50.5	49.0	57.5	57.7
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	65.6	64.7	61.4	56.9	65.4	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	71	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Roosevelt
Road Segment: Tulip (Road C) to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,703 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,131 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.15	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.3	56.7	50.3	48.8	57.2	57.4
Heavy Trucks:	58.6	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.4	64.5	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Royal Oak
Road Segment: Alton Parkway to Eaglecreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	398 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.86	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	75.75	-22.09	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	81.57	-26.05	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	63.8	62.9	59.5	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Oak Canyon Drive to Burt Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,454 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,162 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.1	63.5	54.4	55.7	64.1	64.2
Vehicle Noise:	71.8	70.9	67.8	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	231	498	1,072
CNEL:	115	248	535	1,152

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Irvine Center Drive to Oak Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,167 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,056 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	64.0	63.4	54.3	55.6	63.9	64.1
Vehicle Noise:	71.7	70.8	67.7	62.9	71.5	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	227	489	1,054
CNEL:	113	244	525	1,132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-405 NB Off-Ramp to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,532	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,756	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.34	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.90	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.86	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.8	63.7	72.3	72.9
Medium Trucks:	66.2	65.5	59.1	57.6	66.0	66.3
Heavy Trucks:	66.6	66.0	57.0	58.2	66.6	66.7
Vehicle Noise:	74.3	73.4	70.3	65.5	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	242	522	1,125
CNEL:	121	260	561	1,209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Burt Road to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,029	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,375	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.00	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.24	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.19	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.8	70.5	71.1
Medium Trucks:	64.3	63.6	57.2	55.7	64.2	64.4
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	522	1,124
CNEL:	121	260	560	1,208

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Marine to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,688 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,007 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.59	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.65	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.61	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.9	63.8	72.4	73.0
Medium Trucks:	66.2	65.6	59.2	57.7	66.1	66.4
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.4	73.5	70.4	65.6	74.2	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	190	409	881	1,899
CNEL:	204	440	947	2,040

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Trabuco Road to Towngate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,085 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,307 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.8	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	919
CNEL:	99	213	459	988

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,043 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,139 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.68	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.64	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.4	61.8	55.4	53.8	62.3	62.5
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.6	69.6	66.6	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	191	412	888
CNEL:	95	206	443	954

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-5 SB Off-Ramp to Marine

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,509 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,167 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.79	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.45	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.9	70.8	69.1	63.0	71.6	72.2
Medium Trucks:	65.4	64.8	58.4	56.9	65.3	65.6
Heavy Trucks:	65.9	65.3	56.2	57.5	65.8	66.0
Vehicle Noise:	73.6	72.7	69.6	64.8	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	168	362	780	1,680
CNEL:	181	389	838	1,805

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Hospital to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,931 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,964 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.2	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	184	397	855
CNEL:	92	198	426	918

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Nightmist to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,881 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.48	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.76	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.71	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.6	65.0	55.9	57.2	65.5	65.7
Vehicle Noise:	73.3	72.4	69.3	64.5	73.1	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	160	345	744	1,602
CNEL:	172	371	799	1,722

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-405 SB Off-Ramp to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,399 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,920 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.25	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.99	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.95	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	65.1	64.4	58.0	56.5	65.0	65.2
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.2	72.3	69.2	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	205	442	951
CNEL:	102	220	474	1,022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-5 NB Off-Ramp to Nightmist

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,651 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,849 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.44	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.79	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.75	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	65.1	64.4	58.1	56.5	65.0	65.2
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	159	343	740	1,594
CNEL:	171	369	795	1,712

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Towngate to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,490 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,845 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.13	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.11	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	832
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Waterworks to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,082 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,729 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.7	52.6	53.9	62.2	62.3
Vehicle Noise:	70.0	69.0	66.0	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	187	403	869

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Irvine Boulevard to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,874 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,475 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	111	239	515
CNEL:	55	119	257	553

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	153	331	712	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon Avenue
Road Segment: Alton Parkway to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,774 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,704 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.91	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.33	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.28	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	815
CNEL:	88	189	407	876

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sand Canyon/Shady Canyon
Road Segment: Quail Hill Parkway to I-405 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,802 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,964 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.52	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.72	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.67	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	730
CNEL:	78	169	364	784

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Scientific Way
Road Segment: Irvine Center Drive to Wald

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,635 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	135 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-9.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-26.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-30.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.5	51.4	49.7	43.6	52.2	52.8
Medium Trucks:	46.7	46.0	39.7	38.1	46.6	46.8
Heavy Trucks:	48.6	48.0	38.9	40.2	48.5	48.7
Vehicle Noise:	54.7	53.8	50.4	46.0	54.5	55.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	27	58
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Shady Canyon Drive
Job Number: 15937
Road Segment: Culver Drive/Bonita Canyon Drive to Cloverfield

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,123 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	753 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.64	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-20.88	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-24.84	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	60.8	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	64.9	60.1	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	142	307
CNEL:	33	71	153	330

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Shady Canyon Drive
Road Segment: Bommer Canyon Road to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,752 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	640 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.35	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.59	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.54	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.2
Heavy Trucks:	59.5	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.3	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	148	318
CNEL:	34	74	159	342

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Skyhawk
Road Segment: Great Park Boulevard to Marine Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,666 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	880 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.5	55.5	53.7	47.7	56.3	56.9
Medium Trucks:	51.4	50.7	44.3	42.8	51.2	51.5
Heavy Trucks:	54.6	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	59.4	58.6	54.7	50.8	59.3	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	120
CNEL:	13	27	59	128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Southwood
Road Segment: Yale Avenue to Colt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,031 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	250 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.88	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.12	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.07	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.1	57.0	55.2	49.2	57.8	58.4
Medium Trucks:	52.3	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.1	53.5	44.5	45.8	54.1	54.2
Vehicle Noise:	60.3	59.4	56.0	51.6	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	41	88

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Southwood
Road Segment: Challenger to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,798 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	231 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.23	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.47	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.42	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.7	56.6	54.9	48.8	57.4	58.1
Medium Trucks:	51.9	51.3	44.9	43.4	51.8	52.1
Heavy Trucks:	53.8	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	59.9	59.1	55.6	51.2	59.8	60.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	78
CNEL:	8	18	39	83

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Spectrum Center Drive (Fortune
Road Segment: Pacifica to Quassar Drive (Spectrum)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,786 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	972 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.1	56.4	50.3	58.9	59.5
Medium Trucks:	53.7	53.0	46.7	45.1	53.6	53.8
Heavy Trucks:	56.2	55.6	46.5	47.8	56.2	56.3
Vehicle Noise:	61.7	60.8	57.2	53.0	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	84	181

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Spectrum Center Drive (Fortune
Road Segment: Quassar Drive (Spectrum) to Gatewayb

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,116 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,082 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.04	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.8	50.8	59.4	60.0
Medium Trucks:	54.2	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	56.6	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	62.2	61.3	57.7	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	19	42	90	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Sunnyhill
Road Segment: Shady Canyon Drive to Turtle Rock Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,602 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	545 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-19.28	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-23.23	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.5	53.4	51.6	45.6	54.2	54.8
Medium Trucks:	49.3	48.6	42.2	40.7	49.2	49.4
Heavy Trucks:	52.5	51.9	42.9	44.1	52.5	52.6
Vehicle Noise:	57.3	56.5	52.6	48.7	57.2	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	87
CNEL:	9	20	43	93

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Technology Drive
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,036 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,643 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	637
CNEL:	68	147	317	684

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Technology Drive
Job Number: 15937
Road Segment: Old Laguna Canyon Road to I-5/SR-133 Undercrossing

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,487 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,938 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.27	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.7	61.1	52.1	53.4	61.7	61.8
Vehicle Noise:	69.0	68.1	64.9	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	241	518
CNEL:	56	120	258	556

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Technology Drive
Road Segment: I-5/SR-133 to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,568 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,862 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.6	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	68.8	67.9	64.7	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	505
CNEL:	54	117	251	541

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Technology Drive
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,528 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	456 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.55	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.9	59.8	58.0	52.0	60.6	61.2
Medium Trucks:	54.6	53.9	47.6	46.0	54.5	54.7
Heavy Trucks:	55.5	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.7	61.8	58.6	54.0	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	92	198
CNEL:	21	46	98	212

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Toledo Way
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,905 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	652 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	57.3	56.6	50.2	48.7	57.1	57.4
Heavy Trucks:	57.7	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	65.4	64.5	61.4	56.6	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	299
CNEL:	32	69	149	321

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Toledo Way
Road Segment: Goodyear to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,324 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	522 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	56.3	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	56.7	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	64.4	63.5	60.5	55.7	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	55	119	257
CNEL:	28	60	128	277

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Toledo Way
Road Segment: Alton Parkway to Parker

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,838 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	482 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.3	59.5	53.5	62.1	62.7
Medium Trucks:	55.9	55.3	48.9	47.4	55.8	56.1
Heavy Trucks:	56.4	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	64.1	63.2	60.1	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	53	113	244
CNEL:	26	56	122	262

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: Keystone to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,475 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,194 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	66.9	66.0	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	174	375
CNEL:	40	87	187	403

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: Jeffrey Road to Keystone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,713 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,131 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.6	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.6	65.7	62.6	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	362
CNEL:	39	84	180	388

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: Culver Drive to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,214 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,090 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.2	58.6	49.6	50.9	59.2	59.3
Vehicle Noise:	66.5	65.6	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	353
CNEL:	38	82	176	379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: Monroe to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,866 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,061 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.3	57.6	51.2	49.7	58.2	58.4
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.4	65.5	62.3	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	161	347
CNEL:	37	80	173	372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: I-5 NB Off-Ramp to Monroe

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,616 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,041 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.0	58.4	49.4	50.7	59.0	59.1
Vehicle Noise:	66.3	65.4	62.2	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: Yale Avenue to Remington

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,616	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	958	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	57.8	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	58.7	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	65.9	65.0	61.9	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	70	150	324
CNEL:	35	75	161	348

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Trabuco Road
Road Segment: Remington to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,077 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	914 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.6	57.0	50.6	49.1	57.5	57.7
Heavy Trucks:	58.5	57.9	48.8	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	314
CNEL:	34	73	156	337

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Ridge Drive
Road Segment: Federation Way to Bonita Canyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,017 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,734 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	240	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Rock Drive
Road Segment: Ridgeline to Willowleaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,727 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	720 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.38	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.62	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.57	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.6	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	250
CNEL:	27	58	125	268

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Rock Drive
Road Segment: Silkwood to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,572 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	707 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.46	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.69	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.65	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	60.2	59.7	50.6	51.9	60.2	60.3
Vehicle Noise:	67.5	66.6	63.4	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	115	247
CNEL:	27	57	123	265

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Rock Drive
Road Segment: Canyon Park to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,206 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	595 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.21	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.45	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.40	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.7	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	220
CNEL:	24	51	110	236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Rock Drive
Road Segment: Sunnyhill to Southernwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,588 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	296 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-28.43	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	55.6	55.0	48.6	47.0	55.5	55.7
Heavy Trucks:	56.5	55.9	46.8	48.1	56.4	56.6
Vehicle Noise:	63.7	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	138
CNEL:	15	32	69	148

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Rock Drive
Road Segment: Campus Drive to Hillgate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,125 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	588 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.6	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.8	62.9	59.7	55.1	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	109	234
CNEL:	25	54	116	251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Turtle Rock Drive
Road Segment: Paseo Segovia to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,066 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	335 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.69	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-23.93	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-27.89	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.0
Vehicle Noise:	65.2	64.3	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	185
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Golden Glow to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,194 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,481 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.5	63.9	57.5	56.0	64.4	64.6
Heavy Trucks:	64.9	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	72.7	71.7	68.7	63.9	72.5	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	197	423	912
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Ridgeline to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,836 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,276 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.90	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.34	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-17.29	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.1	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.3	71.3	68.3	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	222	478	1,030
CNEL:	111	239	514	1,107

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Culver Drive to Golden Glow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,000 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,383 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.88	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	193	415	895
CNEL:	96	207	446	962

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Yale Avenue to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,567 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,017 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.9	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.3	63.7	54.7	56.0	64.3	64.4
Vehicle Noise:	72.0	71.1	68.1	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	385	829
CNEL:	89	192	414	891

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,027 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,787 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.3	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.4	71.5	68.4	63.6	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	118	254	546	1,177
CNEL:	126	272	587	1,264

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Mesa to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,446 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,667 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.23	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.00	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.96	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.8
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.2	73.3	70.2	65.4	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	239	514	1,107
CNEL:	119	256	552	1,189

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,634 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,600 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.15	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.08	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.04	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.4	71.3	69.6	63.5	72.2	72.8
Medium Trucks:	66.0	65.3	58.9	57.4	65.9	66.1
Heavy Trucks:	66.4	65.8	56.8	58.0	66.4	66.5
Vehicle Noise:	74.1	73.2	70.1	65.4	73.9	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	236	508	1,094
CNEL:	117	253	545	1,175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: California Avenue to Mesa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,321 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,574 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.12	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.12	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.07	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.4	71.3	69.6	63.5	72.1	72.7
Medium Trucks:	66.0	65.3	58.9	57.4	65.8	66.1
Heavy Trucks:	66.4	65.8	56.7	58.0	66.3	66.5
Vehicle Noise:	74.1	73.2	70.1	65.3	73.9	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	234	505	1,088
CNEL:	117	252	543	1,169

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,432 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,006 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.87	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	863
CNEL:	93	200	430	927

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,332 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,595 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.38	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-17.62	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-21.58	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.3	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	126	272	586
CNEL:	63	136	292	629

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,489 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,680 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.37	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.2	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.9	69.0	65.9	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	172	371	799
CNEL:	86	185	399	859

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: San Joaquin to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,608	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,443	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	751
CNEL:	81	174	375	807

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: University Drive
Road Segment: Harvard Avenue to San Joaquin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,483 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,432 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.45	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	61.7	61.2	52.1	53.4	61.7	61.8
Vehicle Noise:	69.5	68.5	65.5	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	348	749
CNEL:	80	173	374	805

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Valley Oak Drive
Road Segment: Hawkcreek to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,484 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,112 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.95	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.4
Medium Trucks:	59.6	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	92	198	426
CNEL:	46	99	213	458

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Valley Oak Drive
Road Segment: Irvine Center Drive to Oak Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,004 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	908 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.83	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-20.07	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-24.02	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.7	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.1	60.5	51.4	52.7	61.0	61.2
Vehicle Noise:	68.8	67.9	64.8	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	87	187	402
CNEL:	43	93	201	432

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Valley Oak Drive
Road Segment: Barranca Parkway to Irvine Center Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,125 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	835 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-20.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-24.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.4
Heavy Trucks:	58.7	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	66.5	65.5	62.5	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	352
CNEL:	38	82	176	378

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Valley Oak Drive
Road Segment: Alton Parkway to Hawkcreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,517 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	538 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.4	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	56.8	56.2	47.2	48.5	56.8	56.9
Vehicle Noise:	64.5	63.6	60.6	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	122	263
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Marriott to Morse Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,440 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,841 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.6	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.6	69.7	66.6	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	669
CNEL:	72	155	333	717

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Michelson Drive to Quartz

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,121 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,732 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	70.5	69.6	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	652
CNEL:	70	151	324	699

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: McGaw Avenue to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,658 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,694 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.3	61.7	55.3	53.7	62.2	62.4
Heavy Trucks:	63.2	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	70.4	69.5	66.3	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	300	646
CNEL:	69	149	321	692

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,666 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,355 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.31	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.93	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	84.25	-17.89	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.8	62.2	53.2	54.5	62.8	62.9
Vehicle Noise:	70.1	69.2	66.0	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	736
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Main Street to Anchor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,991 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,639 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	637
CNEL:	68	147	317	683

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Anchor to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,891 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,549 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.08	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.9	62.3	53.3	54.6	62.9	63.0
Vehicle Noise:	70.2	69.3	66.1	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	622
CNEL:	67	144	310	667

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Morse to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,382 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,424 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.3	59.2	67.8	68.5
Medium Trucks:	61.9	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.9	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	279	602
CNEL:	65	139	300	645

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Martin to Dupont Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,189	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,078	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.1
Vehicle Noise:	69.3	68.4	65.2	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	543
CNEL:	58	125	270	582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Campus Drive to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,686 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,037 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.2	68.3	65.1	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	57	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Von Karman Avenue
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,689 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,037 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.10	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.06	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.2	68.3	65.1	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	57	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Jeffrey Road to I-5 SB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,097 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,813 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	70.6	69.7	66.5	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	664
CNEL:	71	154	331	713

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Myford Road to Jamboree Road SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,555 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,861 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.75	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.49	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.6	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	68.8	67.9	64.7	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	504
CNEL:	54	117	251	541

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: The Mall Street to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,739 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,711 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.86	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.4	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	477
CNEL:	51	110	237	512

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Harvard Avenue to The Mall Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,671 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,705 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.83	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.3	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	510

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Franciscan Street to Ravenwood Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,169 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,581 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	210	453
CNEL:	49	105	225	485

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Ravenwood Street to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,154 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,580 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.04	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.8	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	210	452
CNEL:	49	105	225	485

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Culver Drive to Franciscan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,884 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,558 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	59.9	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	68.0	67.1	64.0	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	208	448
CNEL:	48	104	223	481

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Peters Canyon Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,274 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,085 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.24	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	263	568
CNEL:	61	131	283	609

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Project Name: Irvine GP
Road Name: Walnut Avenue
Job Number: 15937
Road Segment: Jamboree Road NB Off-Ramp to Peters Canyon Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,014 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.15	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.11	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	60.2	59.7	50.6	51.9	60.2	60.4
Vehicle Noise:	67.5	66.6	63.4	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	554
CNEL:	59	128	276	595

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Yale Avenue to Kazan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,189 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	58.8	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	81	174	374
CNEL:	40	86	186	401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Walnut Avenue
Road Segment: Wisteria to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,301 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,180 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Warner Avenue
Road Segment: Jamboree Road SB Off-ramp to Construction North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,399 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.9	69.0	65.8	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	277	597
CNEL:	64	138	297	641

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Warner Avenue
Road Segment: Construction North to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,183	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,665	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Warner Avenue
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,998 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,155 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	367
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Warner Avenue
Road Segment: Santa Ynez to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,117 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	917 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.6	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Warner Avenue
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,312 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	851 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	299
CNEL:	32	69	149	321

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Alton Parkway to Blue Lake North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,402 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	776 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.78	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	54	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Eagle Run to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,077 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	749 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.5	54.9	48.5	47.0	55.4	55.7
Heavy Trucks:	56.9	56.3	47.2	48.5	56.8	57.0
Vehicle Noise:	63.6	62.7	59.4	54.9	63.4	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	227
CNEL:	24	52	113	243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Thunder Run to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,148 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	755 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.8	52.7	61.3	61.9
Medium Trucks:	55.6	54.9	48.5	47.0	55.5	55.7
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	63.6	62.7	59.4	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	228
CNEL:	24	53	113	244

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Main Street to Timber Run

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,350 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	606 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.61	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.6	57.8	51.8	60.4	61.0
Medium Trucks:	54.6	54.0	47.6	46.0	54.5	54.7
Heavy Trucks:	55.9	55.4	46.3	47.6	55.9	56.1
Vehicle Noise:	62.7	61.8	58.5	53.9	62.5	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	42	91	197
CNEL:	21	45	98	211

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Yale Avenue to Shorebird

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,270 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	600 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	59.5	57.8	51.7	60.3	60.9
Medium Trucks:	54.6	53.9	47.5	46.0	54.5	54.7
Heavy Trucks:	55.9	55.3	46.3	47.5	55.9	56.0
Vehicle Noise:	62.6	61.7	58.4	53.9	62.4	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	42	91	195
CNEL:	21	45	97	209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Warner Avenue to Stonecreek South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,777 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	559 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.5	51.4	60.0	60.6
Medium Trucks:	54.3	53.6	47.2	45.7	54.2	54.4
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	87	187
CNEL:	20	43	93	200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,586 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	543 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	55.5	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.2	61.3	58.0	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Stonecreek North to Warner Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,484 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	535 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.3	51.2	59.8	60.5
Medium Trucks:	54.1	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	57.9	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: West Yale Loop
Road Segment: Birdsong to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.5	53.9	54.1
Heavy Trucks:	55.3	54.8	45.7	47.0	55.3	55.5
Vehicle Noise:	62.1	61.2	57.9	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	83	180
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Westwood
Road Segment: Yorktown to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,072 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	501 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.86	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-21.10	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-25.06	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.1	56.6	47.5	48.8	57.1	57.3
Vehicle Noise:	63.3	62.4	59.0	54.6	63.1	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	130
CNEL:	14	30	65	139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Westwood
Road Segment: Bryan Avenue to Leaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,762 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	310 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.94	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.18	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.14	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.9	56.2	50.1	58.7	59.3
Medium Trucks:	53.2	52.6	46.2	44.6	53.1	53.3
Heavy Trucks:	55.1	54.5	45.4	46.7	55.0	55.2
Vehicle Noise:	61.2	60.3	56.9	52.5	61.0	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	44	95
CNEL:	10	22	47	101

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Deerfield Avenue to Winvale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,511 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	867 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.57	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.81	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.76	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Hicks Canyon Drive to Meadowood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,814 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	645 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.86	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.10	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.05	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	54	116	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Walnut Avenue to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,547 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,200 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.40	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-22.35	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	70.7	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	201	433
CNEL:	46	100	216	465

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,133	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,166	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.7	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.5	58.9	49.9	51.2	59.5	59.6
Vehicle Noise:	66.8	65.9	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	171	369
CNEL:	40	85	184	396

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,725 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,132 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.6	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.6	65.7	62.6	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	362
CNEL:	39	84	180	389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: West Yale Loop to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,926 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	984 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	330
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Winvale Avenue to Karen Ann Lane

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	851 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	299
CNEL:	32	69	149	321

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Karen Ann Lane to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	851 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	299
CNEL:	32	69	149	321

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Trabuco Road to Southwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,111 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	834 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.2	56.6	50.2	48.7	57.1	57.3
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	65.3	64.4	61.3	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	137	295
CNEL:	32	68	147	317

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Southwood to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,802 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	809 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.0
Vehicle Noise:	65.2	64.3	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	134	289
CNEL:	31	67	144	310

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Northwood to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,152 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	755 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.37	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	64.9	64.0	60.8	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	128	276
CNEL:	30	64	138	297

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,918	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	736	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.7	56.0	49.7	48.1	56.6	56.8
Heavy Trucks:	57.5	56.9	47.9	49.2	57.5	57.6
Vehicle Noise:	64.8	63.9	60.7	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	126	272
CNEL:	29	63	135	291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: Irvine Boulevard to Park Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,463 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	616 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	56.8	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.0	63.1	59.9	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Avenue
Road Segment: University Drive to Royce

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,940 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	325 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.83	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-24.07	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-28.03	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.1	54.4	48.1	46.5	55.0	55.2
Heavy Trucks:	55.9	55.3	46.3	47.6	55.9	56.0
Vehicle Noise:	63.2	62.3	59.1	54.4	63.0	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	183

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Preferred
Road Name: Yale Court
Road Segment: Arborwood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,427 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	530 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.15	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-19.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-23.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.2	54.4	48.3	57.0	57.6
Medium Trucks:	52.1	51.4	45.0	43.5	51.9	52.2
Heavy Trucks:	55.3	54.7	45.6	46.9	55.2	55.4
Vehicle Noise:	60.1	59.3	55.4	51.4	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Ada
Road Segment: Barranca Parway to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,902 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.35	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-15.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-19.84	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	70.5	69.6	66.3	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	394
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Ada
Road Segment: Alton Parkway to Barranca PArkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,284 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,581 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	69.0	68.1	64.8	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	240	517
CNEL:	55	119	257	554

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Enterprise to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	76,734 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,331 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.9	70.8	69.1	63.0	71.7	72.3
Medium Trucks:	65.5	64.8	58.4	56.9	65.4	65.6
Heavy Trucks:	65.9	65.3	56.3	57.5	65.9	66.0
Vehicle Noise:	73.6	72.7	69.6	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	305	658	1,418
CNEL:	152	328	707	1,523

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: I-5 NB Off-Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	80,974 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,680 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	5.84	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-11.40	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-15.35	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	66.1	65.4	59.1	57.5	66.0	66.2
Heavy Trucks:	66.5	65.9	56.9	58.2	66.5	66.6
Vehicle Noise:	74.3	73.3	70.3	65.5	74.1	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	149	321	692	1,490
CNEL:	160	345	743	1,601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: East Yale Loop to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,275 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,663 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.84	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	763
CNEL:	82	177	380	820

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Gateway Boulevard to Enterprise

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,790 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,860 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.7	56.3	54.7	63.2	63.4
Heavy Trucks:	63.7	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.5	70.5	67.5	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	220	473	1,019
CNEL:	110	236	508	1,095

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Jeffrey Road to Royal Oak

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,682 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,119 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.2
Medium Trucks:	62.4	61.7	55.3	53.8	62.3	62.5
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	141	304	655
CNEL:	70	152	327	704

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Daimler Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,892 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,054 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	298	642
CNEL:	69	149	320	689

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,826 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,048 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.70	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	641
CNEL:	69	148	319	688

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,661 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,035 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	638
CNEL:	69	148	318	685

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,944 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,120 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.74	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.50	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.45	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.4	63.9	54.8	56.1	64.4	64.5
Vehicle Noise:	72.2	71.2	68.2	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	501	1,080
CNEL:	116	250	539	1,160

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Creek Road to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,400 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,013 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.3	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	294	633
CNEL:	68	147	316	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Red Hill Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,050 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,984 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.6	68.3	68.9
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	313	674

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Lake Road to Creek Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,143 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,909 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.8	52.7	54.0	62.3	62.4
Vehicle Noise:	70.1	69.1	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	284	611
CNEL:	66	141	305	657

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Telemetry to Banting

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,349 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,926 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	615
CNEL:	66	142	307	661

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Irvine Boulevard to Commercentre

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,497 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,176 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	193	415	895
CNEL:	96	207	446	962

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Jenner to Telemetry

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,981 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,896 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	608
CNEL:	65	141	303	654

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Irvine Center Drive to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,393 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,250 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	422	909
CNEL:	98	210	453	977

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Sand Canyon Avenue to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,269 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,075 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.47	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.77	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.72	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.8	71.5	72.1
Medium Trucks:	65.3	64.6	58.3	56.7	65.2	65.4
Heavy Trucks:	65.7	65.1	56.1	57.3	65.7	65.8
Vehicle Noise:	73.4	72.5	69.5	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	212	457	984
CNEL:	106	228	491	1,058

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Laguna Canyon Road to Jenner

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,856 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	600
CNEL:	64	139	299	644

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Technology Drive East to Barranca Pkwy/Muirlands Blvd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,222 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,153 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.66	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.62	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.1	60.0	68.6	69.2
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.6	69.7	66.6	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	891
CNEL:	96	206	444	957

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Royal Oak to Valley Oak Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,595 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,782 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.1
Vehicle Noise:	69.8	68.8	65.8	61.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	584
CNEL:	63	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,170 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,746 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.23	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.7	68.7	65.7	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	576
CNEL:	62	133	287	619

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Alton Parkway
Job Number: 15937
Road Segment: Barranca Pkwy/Muirlands Blvd to Jeronimo Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,780 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,787 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	820
CNEL:	88	190	409	881

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Ada to Technology Drive East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,965 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,802 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.13	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.1	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	823
CNEL:	88	191	411	885

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,836 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,636 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.3	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	61.7	61.1	52.0	53.3	61.7	61.8
Vehicle Noise:	69.4	68.5	65.4	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	256	552
CNEL:	59	128	275	593

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Jeronimo Road to Hughes

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,395 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,590 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	363	781
CNEL:	84	181	390	839

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Hughes to Morgan
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,715 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,451 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.75	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.71	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.5	60.7	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	350	753
CNEL:	81	174	376	809

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Morgan to Toledo Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,095 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	60.6	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.0	60.5	51.4	52.7	61.0	61.1
Vehicle Noise:	68.8	67.8	64.8	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	673
CNEL:	72	156	336	723

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: San Marino to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,692 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,120 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.85	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.38	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.34	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.7	60.1	53.7	52.1	60.6	60.8
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.2
Vehicle Noise:	68.9	67.9	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	317	684
CNEL:	73	158	341	734

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,799 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,128 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.37	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.2	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	68.9	68.0	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	318	685
CNEL:	74	159	342	736

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Hospital to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,005 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,063 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.74	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.50	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.46	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	63.6	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.7	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	163	350	754
CNEL:	81	175	376	811

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,016 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,981 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.56	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.68	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.63	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	734
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Murphy Avenue to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,679 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,036 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.0	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	68.7	67.8	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	143	309	665
CNEL:	71	154	332	715

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Foster to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,362 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,927 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.4	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	298	642
CNEL:	69	149	320	689

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Fairbanks to Foster

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,132 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,826 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.3	66.9
Medium Trucks:	60.1	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	66	143	309	665

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Toledo Way to Bertea

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,840 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.4	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.1	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	613
CNEL:	66	142	306	659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Pacifica to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,898 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,889 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.35	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.88	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.84	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.4	70.0
Medium Trucks:	63.2	62.5	56.1	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	330	711
CNEL:	76	165	355	764

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Bertea to Fairbanks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,315 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,758 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.04	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.20	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.15	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.0	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Meridian to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,652 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,704 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.4	57.3	66.0	66.6
Medium Trucks:	59.8	59.1	52.7	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	63.9	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	591
CNEL:	63	137	295	635

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Paseo Westpark to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,780 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,714 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	593
CNEL:	64	137	296	638

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Alton Parkway
Road Segment: Harvard Avenue to Paseo Westpark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,451 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,522 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.58	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.82	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-21.78	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.3	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.4	66.5	63.5	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	548
CNEL:	59	127	273	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Astor
Road Segment: Lynx to Fairbanks
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,609 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.88	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-15.36	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-19.32	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.8	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.3
Vehicle Noise:	66.8	65.9	62.3	58.1	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	222
CNEL:	24	51	110	237

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Astor
Road Segment: Cadence to Lynx
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,820 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,223 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.68	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-16.56	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-20.51	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.6	56.9	50.5	49.0	57.5	57.7
Heavy Trucks:	60.0	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	65.6	64.7	61.1	56.9	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	185
CNEL:	20	43	92	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: I-5 NB Off-Ramp to Rockfield Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	95,791 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,903 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	6.57	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-10.67	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-14.62	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.7	73.6	71.8	65.8	74.4	75.0
Medium Trucks:	68.2	67.6	61.2	59.7	68.1	68.3
Heavy Trucks:	68.6	68.1	59.0	60.3	68.6	68.8
Vehicle Noise:	76.4	75.4	72.4	67.6	76.2	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	257	555	1,195	2,574
CNEL:	277	596	1,284	2,766

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Muirlands Boulevard to Jeronimo Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,823 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,100 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.67	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.57	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	64.5	63.9	57.5	56.0	64.4	64.7
Heavy Trucks:	65.0	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	72.7	71.8	68.7	63.9	72.5	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	264	570	1,227
CNEL:	132	284	612	1,319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Rockfield Boulevard to Muirlands Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,605	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	5,495	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.99	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.25	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.20	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	66.7	66.0	59.6	58.1	66.5	66.8
Heavy Trucks:	67.1	66.5	57.4	58.7	67.0	67.2
Vehicle Noise:	74.8	73.9	70.8	66.0	74.6	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	202	435	938	2,021
CNEL:	217	468	1,008	2,171

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Jeronimo Road to Toledo Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,866 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,114 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.73	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.7	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	494	1,064
CNEL:	114	246	530	1,143

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Toledo Way to Cromwell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,021 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,797 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	63.3	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	63.7	63.1	54.0	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.4	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	217	468	1,008
CNEL:	108	233	503	1,083

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Cromwell to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,768 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.89	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.6	66.8	60.8	69.4	70.0
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.7
Vehicle Noise:	71.4	70.4	67.4	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	466	1,003
CNEL:	108	232	500	1,078

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Research Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,545 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,355 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.7	67.4	68.0
Medium Trucks:	61.2	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.3	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	340	733
CNEL:	79	170	366	788

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Irvine Center Drive to Research Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,944 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	820 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-20.51	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-24.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	56.6	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	64.7	63.8	60.8	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	363
CNEL:	39	84	181	390

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bake Parkway
Road Segment: Lake Forest Drive to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,379 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	609 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.56	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-21.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-25.76	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	55.7	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	63.4	62.5	59.5	54.7	63.2	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	298
CNEL:	32	69	148	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Banting
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,367 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	443 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.40	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-21.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-25.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.7	56.6	54.8	48.8	57.4	58.0
Medium Trucks:	51.9	51.2	44.8	43.3	51.8	52.0
Heavy Trucks:	53.7	53.1	44.1	45.4	53.7	53.8
Vehicle Noise:	59.9	59.0	55.6	51.2	59.7	60.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	129
CNEL:	14	30	64	137

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Pacifica to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,481 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,845 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.2	68.4	62.4	71.0	71.6
Medium Trucks:	64.6	64.0	57.6	56.1	64.5	64.8
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.8	71.9	68.9	64.1	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	434	936
CNEL:	101	217	467	1,007

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Banting to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,533 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,601 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.86	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.3	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.4	71.5	68.6	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	409	882
CNEL:	95	204	440	948

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: I-5 HOV Ramp to Technology Drive West
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,208	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,575	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-15.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.2	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.2	63.7	54.6	55.9	64.2	64.3
Vehicle Noise:	72.4	71.5	68.5	63.6	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	406	876
CNEL:	94	203	437	942

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Technology Drive West to Ada

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,730 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,535 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-19.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.1	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.2	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	402	867
CNEL:	93	201	433	932

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Irvine Center Drive to I-5 HOV Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,070 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,398 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.98	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.7	61.6	70.2	70.9
Medium Trucks:	63.9	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	63.9	63.3	54.3	55.6	63.9	64.0
Vehicle Noise:	72.1	71.2	68.2	63.3	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	388	835
CNEL:	90	194	417	898

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,213 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,328 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.85	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.6	61.5	70.1	70.7
Medium Trucks:	63.8	63.1	56.7	55.2	63.7	63.9
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	72.0	71.0	68.1	63.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	380	819
CNEL:	88	190	409	881

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: East Yale Loop to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,535 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,272 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.7	63.0	56.6	55.1	63.6	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.9	70.9	68.0	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	374	805
CNEL:	87	187	402	866

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: West Yale Loop to Lake Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,880 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,218 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.64	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.9	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	793
CNEL:	85	184	396	853

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Ada to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,022 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,229 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.8	70.8	67.9	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	171	369	795
CNEL:	86	184	397	856

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Lake Road to Creek Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,073 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.3	62.6	56.2	54.7	63.2	63.4
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.5	70.5	67.6	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	352	758
CNEL:	82	176	378	815

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Red Hill Avenue to Armstrong Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,369 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,990 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.19	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.05	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.01	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.9	71.8	70.0	64.0	72.6	73.2
Medium Trucks:	66.3	65.6	59.2	57.7	66.1	66.4
Heavy Trucks:	66.3	65.7	56.7	57.9	66.3	66.4
Vehicle Noise:	74.4	73.5	70.6	65.7	74.2	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	192	413	889	1,916
CNEL:	206	444	957	2,061

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Discovery/Herchel to Banting
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,373 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,011 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	743
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Lyon to East Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,735 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,958 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.10	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.7	69.4	70.0
Medium Trucks:	63.0	62.4	56.0	54.4	62.9	63.1
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	71.2	70.3	67.3	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	339	730
CNEL:	78	169	364	785

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Creek Road to Lyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,344 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,926 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.0	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	71.1	70.2	67.3	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	335	721
CNEL:	78	167	360	776

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,730 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,443 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.55	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.69	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.65	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.3
Heavy Trucks:	64.3	63.7	54.6	55.9	64.2	64.4
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	522	1,124
CNEL:	121	261	561	1,209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Sand Canyon Avenue to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,369 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,680 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.4	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	70.5	69.6	66.7	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	306	659
CNEL:	71	153	329	709

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Armstrong Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,026 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,220 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.26	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.98	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.94	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	63.9	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.0	63.4	54.3	55.6	64.0	64.1
Vehicle Noise:	72.1	71.2	68.2	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	232	499	1,075
CNEL:	116	249	537	1,157

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,863 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,639 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.92	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.4	69.5	66.6	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	301	648
CNEL:	70	150	323	697

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Jamboree Road to Construction Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,487 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,598 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	919
CNEL:	99	213	459	988

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Santa Rosa to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,840 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,544 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.5	62.0	52.9	54.2	62.5	62.6
Vehicle Noise:	70.7	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	421	906
CNEL:	97	210	452	975

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: FedEx to Discovery/Herchel

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,901 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,477 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	70.0	69.1	66.1	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	281	604
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Jeffrey Road to Valley Oak Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,889 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,476 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	70.0	69.1	66.1	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Laguna Canyon Road to FedEx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,450 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,440 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.9	68.9	66.0	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	276	594
CNEL:	64	138	297	639

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Pullman Street to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,245	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,073	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.05	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-15.19	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-19.14	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.8	71.5	72.1
Medium Trucks:	65.1	64.4	58.1	56.5	65.0	65.2
Heavy Trucks:	65.1	64.6	55.5	56.8	65.1	65.3
Vehicle Noise:	73.3	72.4	69.4	64.5	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	161	347	747	1,609
CNEL:	173	373	804	1,731

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Construction Circle to Fire Station
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,622 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,279 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.4	61.9	62.1
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	391	842
CNEL:	91	195	420	906

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Fire Station to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,622 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,279 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.4	61.9	62.1
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	391	842
CNEL:	91	195	420	906

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Paseo Westpark to Santa Rosa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,925 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,304 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	394	848
CNEL:	91	197	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Barranca Parkway
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,798	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,128	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.74	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.8
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	173	373	804
CNEL:	87	186	402	865

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bay Tree
Road Segment: Trabuco Road to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,720 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	224 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.35	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-24.59	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-28.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.7	53.6	51.9	45.8	54.4	55.1
Medium Trucks:	48.9	48.3	41.9	40.3	48.8	49.0
Heavy Trucks:	50.8	50.2	41.2	42.4	50.8	50.9
Vehicle Noise:	56.9	56.1	52.6	48.2	56.8	57.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	41	87

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Beacon
Road Segment: Ridge Valley to Benchmark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,587 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	296 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.48	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-22.72	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-26.67	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.9	55.8	54.1	48.0	56.6	57.3
Medium Trucks:	51.4	50.7	44.4	42.8	51.3	51.5
Heavy Trucks:	53.9	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	59.4	58.6	54.9	50.7	59.2	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	72
CNEL:	8	17	36	77

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Benchmark (LN Street)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,743 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	144 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.61	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.85	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.81	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.8	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	48.3	47.6	41.2	39.7	48.2	48.4
Heavy Trucks:	50.7	50.2	41.1	42.4	50.7	50.9
Vehicle Noise:	56.3	55.4	51.8	47.6	56.1	56.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	10	21	44
CNEL:	5	10	22	47

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bison Avenue
Road Segment: SR-73 NB Off-Ramp to California Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,152 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,158 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.85	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.81	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	258	557
CNEL:	60	129	277	597

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bonita Canyon Drive
Road Segment: MacArthur Boulevard to SR-73

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,797 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,541 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.64	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.60	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-19.55	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.7
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	728
CNEL:	78	169	363	782

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bonita Canyon Drive
Road Segment: Turtle Ridge to Shady Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,746 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,712 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.07	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.31	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.27	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.3	59.5	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	560
CNEL:	60	130	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bonita Canyon Drive
Road Segment: Newport Coast Drive to Turtle Ridge
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,113 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,577 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.43	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.67	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.62	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	59.8	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.9	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	530
CNEL:	57	123	264	569

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bonita Canyon Drive
Road Segment: SR-73 NB Off-Ramp to Newport Coast Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,182 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,500 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.65	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-17.89	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-21.84	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	59.6	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	238	513
CNEL:	55	119	256	551

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bosque
Road Segment: Cadence to Great Park Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,864 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,061 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.07	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-17.17	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-21.13	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	57.0	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	59.4	58.8	49.8	51.1	59.4	59.5
Vehicle Noise:	65.0	64.1	60.5	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	78	169
CNEL:	18	39	83	180

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bosque
Road Segment: Irvine Boulevard to Benchmark (LN Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,621 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	711 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-1.67	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-18.91	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-22.86	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	59.7	57.9	51.8	60.5	61.1
Medium Trucks:	55.2	54.6	48.2	46.6	55.1	55.3
Heavy Trucks:	57.7	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	63.2	62.4	58.7	54.5	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	129
CNEL:	14	30	64	138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bosque
Road Segment: Benchmark to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,923 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	654 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-2.04	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-19.27	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-23.23	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.3	57.5	51.5	60.1	60.7
Medium Trucks:	54.9	54.2	47.8	46.3	54.7	55.0
Heavy Trucks:	57.3	56.7	47.7	49.0	57.3	57.4
Vehicle Noise:	62.9	62.0	58.4	54.2	62.7	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bosque
Road Segment: Great Park Boulevard to Beacon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,837 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	152 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-8.39	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-25.62	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-29.58	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.0	52.9	51.2	45.1	53.7	54.3
Medium Trucks:	48.5	47.8	41.5	39.9	48.4	48.6
Heavy Trucks:	51.0	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	56.5	55.6	52.0	47.8	56.3	56.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	21	46
CNEL:	5	11	23	49

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bosque
Road Segment: Beacon to S 5th Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,592 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	131 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-9.01	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	73.48	-26.24	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	79.92	-30.20	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.4	52.3	50.5	44.5	53.1	53.7
Medium Trucks:	47.9	47.2	40.9	39.3	47.8	48.0
Heavy Trucks:	50.4	49.8	40.7	42.0	50.3	50.5
Vehicle Noise:	55.9	55.0	51.4	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Jamboree Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,217 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,833 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.68	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	60.7	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	68.7	67.8	64.7	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	232	499
CNEL:	54	115	249	536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Market Place to El Camino Real
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,788 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.67	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	491
CNEL:	53	114	245	527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Rubicon to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,708 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,791 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	64.0	57.9	66.5	67.1
Medium Trucks:	60.6	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	492
CNEL:	53	114	245	527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: El Camino Real to Rubicon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,532 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,776 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.54	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.69	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	68.6	67.7	64.5	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	489
CNEL:	52	113	243	525

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Eastwood to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,067 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,161 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.3
Medium Trucks:	58.7	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	59.5	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	171	368
CNEL:	39	85	183	395

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Westwood to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,963 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,069 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.3	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.2	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	66.4	65.5	62.3	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	349
CNEL:	37	81	174	374

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Culver Drive to Westwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,769 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,053 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	58.2	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.3	65.4	62.3	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	74	160	345
CNEL:	37	80	172	370

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Bryan Avenue
Road Segment: Yale Avenue to Eastwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,526 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,033 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	58.2	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.0	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	66.2	65.3	62.2	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	341
CNEL:	37	79	170	366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Cadence
Road Segment: Pusan to Chinon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,014 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	579 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.82	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.05	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-25.01	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.3	64.4	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	83	178
CNEL:	19	41	89	191

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Cadence
Road Segment: Bosque to Pusan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,558 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	541 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.11	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-21.35	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-25.30	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.0	56.4	50.0	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	50.0	58.3	58.4
Vehicle Noise:	65.0	64.2	60.9	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Cadence
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,749 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	392 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.51	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-22.75	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-26.70	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	55.6	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	56.9	56.3	47.3	48.6	56.9	57.0
Vehicle Noise:	63.6	62.8	59.5	54.9	63.5	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	137
CNEL:	15	32	68	147

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Cadence
Road Segment: Chinon to Merit
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,233 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	267 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.18	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-24.42	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-28.37	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.0	53.3	46.9	45.4	53.8	54.1
Heavy Trucks:	55.3	54.7	45.6	46.9	55.2	55.4
Vehicle Noise:	62.0	61.1	57.8	53.3	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	49	106
CNEL:	11	25	53	114

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Cadence
Road Segment: Merit to Astor
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,697 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.98	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-27.22	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-31.17	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.1	54.3	48.3	56.9	57.5
Medium Trucks:	51.2	50.5	44.1	42.6	51.0	51.3
Heavy Trucks:	52.5	51.9	42.8	44.1	52.4	52.6
Vehicle Noise:	59.2	58.3	55.0	50.5	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	32	69
CNEL:	7	16	34	74

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: California Avenue
Road Segment: University Drive to Academy Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,919 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,643 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	59.0	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	60.3	59.7	50.6	51.9	60.3	60.4
Vehicle Noise:	67.0	66.1	62.8	58.3	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	178	383
CNEL:	41	88	190	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: California Avenue
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,803 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	809 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.60	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.56	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.9	55.2	48.8	47.3	55.8	56.0
Heavy Trucks:	57.2	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	63.9	63.0	59.7	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	239
CNEL:	26	55	119	255

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: California Avenue
Road Segment: Theory to Bison Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,378 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	774 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.9	52.8	61.4	62.1
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	53	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Carlson Avenue to University Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,153 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,405 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.40	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-15.84	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-19.79	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.4	71.1	71.7
Medium Trucks:	64.9	64.2	57.9	56.3	64.8	65.0
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	73.0	72.1	69.0	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	770
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: University Drive to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,999 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,640 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.4
Heavy Trucks:	63.7	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.5	70.5	67.5	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	352	759
CNEL:	82	176	378	815

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Jamboree Road to Carlson Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,629 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,527 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-15.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-19.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.3	70.4	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	737
CNEL:	79	171	367	792

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Stanford Court to Berkeley Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,357 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,257 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	70.8	69.9	66.8	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	317	683
CNEL:	73	158	341	734

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: California Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,178 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	667
CNEL:	72	154	333	717

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Berkeley Avenue to Cornell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,031 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,735 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	124	266	573
CNEL:	62	133	286	616

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Martin to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,561 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,449 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.7	60.1	53.7	52.1	60.6	60.8
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.2
Vehicle Noise:	68.9	67.9	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	236	509
CNEL:	55	118	254	546

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Campus Drive
Job Number: 15937
Road Segment: Culver Drive to Paseo Montoya (Turtle Rock Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,896 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,311 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	476
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Von Karman Avenue to Teller Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,241 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.47	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.71	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.67	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.1	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.5	59.9	50.8	52.1	60.4	60.6
Vehicle Noise:	68.2	67.3	64.2	59.4	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	459
CNEL:	49	106	229	493

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: MacArthur Boulevard to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,413 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,189 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-18.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-22.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	59.9	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.0	67.1	64.0	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	207	446
CNEL:	48	103	222	479

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Campus Drive
Road Segment: Teller Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,202 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,007 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.38	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	59.6	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.3	66.4	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	185	399
CNEL:	43	92	199	429

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Carlson Avenue
Road Segment: Michelson Drive to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,323 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,099 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	59.5	58.9	52.5	50.9	59.4	59.6
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.0
Vehicle Noise:	67.7	66.7	63.7	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	196	423
CNEL:	45	98	211	454

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Chinon
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,756 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	392 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.46	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-20.70	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-24.66	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.9	54.8	53.1	47.0	55.6	56.3
Medium Trucks:	50.7	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	54.0	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	58.8	58.0	54.0	50.1	58.6	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	14	30	65
CNEL:	7	15	32	70

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Creek Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,796 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	396 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-3.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-20.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-24.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.1	52.0	50.2	44.2	52.8	53.4
Medium Trucks:	47.9	47.2	40.9	39.3	47.8	48.0
Heavy Trucks:	51.1	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	55.9	55.1	51.2	47.3	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	71
CNEL:	7	16	35	75

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,961 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,029 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.3	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.7	72.7	69.8	64.9	73.5	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	307	662	1,427
CNEL:	154	331	713	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,836 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,936 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.11	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.13	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.6	69.7	64.8	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	654	1,409
CNEL:	152	327	704	1,516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: I-5 SB Off-Ramp to I-5 NB On-Ramp (Trabuco)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,896 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,024 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.01	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.1	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	65.5	64.8	58.4	56.9	65.3	65.6
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.6	72.7	69.8	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	307	662	1,426
CNEL:	153	331	712	1,534

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Scottsdale Drive to I-5 SB Off- Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,899 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,942 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.8	55.8	57.0	65.4	65.5
Vehicle Noise:	73.6	72.7	69.7	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	655	1,410
CNEL:	152	327	704	1,517

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: I-405 NB Off-Ramp to San Leandro

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,751 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,682 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.2	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.2	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.3	72.4	69.5	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	293	631	1,360
CNEL:	146	315	679	1,464

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: San Leandro to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,116 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,382 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	280	604	1,302
CNEL:	140	302	650	1,400

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Harvard Avenue to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,212 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,390 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.59	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.4	68.7	62.6	71.2	71.8
Medium Trucks:	64.9	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	64.9	64.3	55.3	56.5	64.9	65.0
Vehicle Noise:	73.1	72.1	69.2	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	281	605	1,303
CNEL:	140	302	651	1,402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Trabuco Road to Farwell Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,906 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.08	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.15	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.11	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.4	71.3	69.5	63.5	72.1	72.7
Medium Trucks:	65.8	65.1	58.7	57.2	65.7	65.9
Heavy Trucks:	65.8	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	74.0	73.0	70.1	65.2	73.8	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	307	661	1,424
CNEL:	153	330	711	1,532

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,527 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,251 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.46	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.78	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.73	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	275	592	1,276
CNEL:	137	296	637	1,372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Main Street to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,100 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,133 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.34	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.90	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.85	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.6	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	270	581	1,252
CNEL:	135	290	625	1,347

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Warner Avenue to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,101 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,051 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.94	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.3	70.9	71.5
Medium Trucks:	64.5	63.9	57.5	55.9	64.4	64.6
Heavy Trucks:	64.6	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.7	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	124	266	573	1,235
CNEL:	133	286	617	1,329

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Walnut Avenue to Scottsdale Dive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,057 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,965 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.16	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.03	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	64.4	63.8	57.4	55.9	64.3	64.5
Heavy Trucks:	64.5	63.9	54.8	56.1	64.4	64.6
Vehicle Noise:	72.6	71.7	68.7	63.9	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	262	565	1,218
CNEL:	131	282	608	1,310

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,820 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,945 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.10	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.06	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.1	70.8	71.4
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.4	63.9	54.8	56.1	64.4	64.6
Vehicle Noise:	72.6	71.7	68.7	63.8	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	563	1,214
CNEL:	131	281	606	1,306

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Shady Canyon Drive to Palo Verde

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,587 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,193 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.2	69.9	70.5
Medium Trucks:	63.5	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.5	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.7	70.8	67.8	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	365	787
CNEL:	85	182	393	846

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Deerfield Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,656 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.81	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.43	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	64.0	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.3	71.3	68.4	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	249	535	1,154
CNEL:	124	267	576	1,241

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Sandburg Way to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,084 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,637 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.45	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.1	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.1	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.2	71.3	68.4	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	115	248	534	1,150
CNEL:	124	266	574	1,237

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Irvine Center Drive to Deerfield Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,249 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,568 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.0	63.3	56.9	55.4	63.9	64.1
Heavy Trucks:	64.0	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.2	71.2	68.3	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	527	1,135
CNEL:	122	263	567	1,221

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Palo Verde to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,255 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,001 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	71.3	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	344	740
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: University Drive to Sandburg Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,762 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,363 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.5	61.4	70.1	70.7
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	63.7	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.9	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	235	506	1,091
CNEL:	117	253	545	1,174

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Farwell Avenue to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,855 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,866 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.05	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.19	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.14	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.3	68.5	62.5	71.1	71.7
Medium Trucks:	64.7	64.1	57.7	56.2	64.6	64.8
Heavy Trucks:	64.8	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.9	72.0	69.0	64.2	72.7	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	262	564	1,214
CNEL:	131	281	606	1,307

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Campus Drive to High School

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,109 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,309 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.37	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.82	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	68.0	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	501	1,079
CNEL:	116	250	539	1,161

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: High School to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,343 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,246 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.29	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.95	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.6	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.8	70.8	67.9	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	495	1,066
CNEL:	115	247	532	1,146

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Bryan Avenue to Florence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,291 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,076 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.18	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.14	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.4
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.5	70.6	67.6	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	222	477	1,028
CNEL:	111	238	513	1,106

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Portola Parkway to Settlers

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,133 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,826 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.21	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	150	323	696
CNEL:	75	161	348	749

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Florence to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,478 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,009 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.23	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	470	1,013
CNEL:	109	235	506	1,090

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Irvine Boulevard to Viewpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,880 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,300 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.79	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	182	393	847
CNEL:	91	196	423	911

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Viewpark to Meadowood
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,007 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,228 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.0
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	385	829
CNEL:	89	192	414	892

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Settlers to Furrow

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,905 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	982 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.90	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-20.14	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-24.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.7	66.4	67.0
Medium Trucks:	60.0	59.4	53.0	51.4	59.9	60.1
Heavy Trucks:	60.1	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	68.2	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	214	461
CNEL:	50	107	230	495

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Culver Drive
Road Segment: Meadowood to Portola Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,491 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,608 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.76	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.7	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	667
CNEL:	72	155	333	718

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Discovery Drive
Road Segment: Irvine Center Drive to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,390 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	775 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.74	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	63.7	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	232
CNEL:	25	53	115	248

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Discovery Drive
Road Segment: Waterworks Way to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,001 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	413 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-22.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.9	56.2	50.1	58.7	59.3
Medium Trucks:	53.0	52.3	45.9	44.4	52.8	53.1
Heavy Trucks:	54.3	53.7	44.6	45.9	54.3	54.4
Vehicle Noise:	61.0	60.1	56.8	52.3	60.8	61.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	71	152
CNEL:	16	35	76	163

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: East Yale Loop
Road Segment: Alton Parkway to Witherspoon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,347 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,101 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.2	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.5	57.9	48.9	50.2	58.5	58.6
Vehicle Noise:	65.3	64.4	61.1	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	68	146	314

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: East Yale Loop
Road Segment: Osborn Street to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,680 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,046 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	57.0	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.3	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.9	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	303

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: East Yale Loop
Road Segment: Yale Avenue to Springbrook South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,525 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	951 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.5	59.8	53.7	62.3	63.0
Medium Trucks:	56.6	55.9	49.5	48.0	56.5	56.7
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	64.6	63.7	60.4	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	57	123	266
CNEL:	28	61	132	285

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: East Yale Loop
Road Segment: Springbrook North to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,506 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	702 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.98	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.3	60.2	58.5	52.4	61.0	61.6
Medium Trucks:	55.3	54.6	48.2	46.7	55.1	55.4
Heavy Trucks:	56.6	56.0	47.0	48.2	56.6	56.7
Vehicle Noise:	63.3	62.4	59.1	54.6	63.1	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	217
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: East Yale Loop
Road Segment: Woodspring to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,059 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	582 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	54.5	53.8	47.4	45.9	54.3	54.6
Heavy Trucks:	55.8	55.2	46.1	47.4	55.7	55.9
Vehicle Noise:	62.5	61.6	58.3	53.8	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	192
CNEL:	21	44	95	205

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: East Yale Loop
Road Segment: Barranca Parkway to Eastshore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,558 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	541 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.6	54.0	54.2
Heavy Trucks:	55.4	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.2	61.3	58.0	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	182
CNEL:	20	42	91	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Eastwood
Road Segment: Bryan Avenue to Monticello
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,212 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	265 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.63	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.87	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.82	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.3	57.2	55.5	49.4	58.0	58.7
Medium Trucks:	52.5	51.9	45.5	44.0	52.4	52.7
Heavy Trucks:	54.4	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	60.5	59.7	56.2	51.8	60.4	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	18	40	85
CNEL:	9	20	42	91

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Eastwood
Road Segment: Columbus to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,017 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	166 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.65	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-25.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-29.84	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.3	55.2	53.5	47.4	56.0	56.6
Medium Trucks:	50.5	49.8	43.5	41.9	50.4	50.6
Heavy Trucks:	52.4	51.8	42.7	44.0	52.3	52.5
Vehicle Noise:	58.5	57.6	54.2	49.8	58.3	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	63
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: El Camino Real
Road Segment: Jamboree Road to Alliance (SR-261 Bridge)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,372 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,598 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	58.9
Heavy Trucks:	60.2	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	66.9	66.0	62.7	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	174	376
CNEL:	40	87	187	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: El Camino Real North
Road Segment: El Camino Real to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	533 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.41	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.3	51.2	59.8	60.4
Medium Trucks:	54.1	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	55.4	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	62.1	61.2	57.9	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Fairbanks
Road Segment: Alton Parkway to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,297 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,510 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.35	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-16.89	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-20.85	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	62.8	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	69.5	68.6	65.3	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	157	338
CNEL:	36	78	168	362

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Fairbanks
Road Segment: Irvine Boulevard to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,527 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	786 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.49	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.72	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.68	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	66.7	65.8	62.5	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	219
CNEL:	23	50	109	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Fairchild Road
Road Segment: MacArthur Boulevard to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,094 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	585 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	55.9	46.9	48.2	56.5	56.6
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Gateway Boulevard
Road Segment: Alton Parkway to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,953 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,316 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	1.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-16.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-20.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.7	51.6	60.2	60.9
Medium Trucks:	55.0	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	63.0	62.2	58.5	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	208
CNEL:	22	48	103	222

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Gateway Boulevard
Job Number: 15937
Road Segment: Spectrum Center Drive (Fortune Drive) to Alton Parkway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,135 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,001 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.3	58.3	56.5	50.4	59.1	59.7
Medium Trucks:	53.8	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	56.3	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	61.8	61.0	57.3	53.1	61.7	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	81	174
CNEL:	18	40	86	185

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Gateway Boulevard
Road Segment: Irvine Center Drive to Meridian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,204 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	512 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-3.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-20.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-24.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.3	53.6	47.5	56.1	56.8
Medium Trucks:	50.9	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	53.4	52.8	43.8	45.0	53.4	53.5
Vehicle Noise:	58.9	58.0	54.4	50.2	58.7	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	111
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Great Park Boulevard
Road Segment: Sand Canyon to Ridge Valley

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,530 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,674 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.24	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.00	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.95	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.8
Medium Trucks:	66.1	65.4	59.0	57.5	66.0	66.2
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.2	73.3	70.2	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	239	515	1,108
CNEL:	119	257	553	1,191

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Great Park Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,566 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,862 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	279	601
CNEL:	65	139	300	646

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Great Park Boulevard (EB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,512 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	702 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.94	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.18	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.14	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	60.5	59.8	53.4	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.6	59.8	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	68	146	315

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Great Park Boulevard (WB)
Road Segment: Bosque to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,517 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	620 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.48	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-21.72	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-25.68	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.9	59.3	52.9	51.4	59.8	60.0
Heavy Trucks:	60.3	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.1	67.1	64.1	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	270
CNEL:	29	62	135	290

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: University Drive to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,043 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,901 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.84	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-16.40	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-20.36	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.0	69.7	70.3
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.5	63.9	54.9	56.2	64.5	64.6
Vehicle Noise:	71.8	70.9	67.7	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	478
CNEL:	51	110	238	513

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Michelson Drive to Coronado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,293 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,582 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.03	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	312	673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: San Marino to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,486 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,433 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.91	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.0	69.1	65.9	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	603
CNEL:	65	139	300	647

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Coronado to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,124 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,403 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.86	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	61.9
Heavy Trucks:	62.7	62.1	53.0	54.3	62.7	62.8
Vehicle Noise:	69.9	69.0	65.8	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	598
CNEL:	64	138	298	642

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: San Carlo to San Marino

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,700 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,368 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.45	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.7	68.4
Medium Trucks:	61.8	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.8	68.9	65.8	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	592
CNEL:	64	137	295	635

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Main Street to San Carlo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,170 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,324 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.71	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.5	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	69.8	68.9	65.7	61.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	272	585
CNEL:	63	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Alton Parkway to San Leon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,344 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,678 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.94	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.90	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.2	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	219	471
CNEL:	51	109	234	505

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: San Juan to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,616 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,701 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.36	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.88	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.3	59.7	53.3	51.7	60.2	60.4
Heavy Trucks:	61.2	60.6	51.5	52.8	61.2	61.3
Vehicle Noise:	68.4	67.5	64.3	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	102	220	475
CNEL:	51	110	237	510

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: San Leon to San Juan

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,160 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,663 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.1	60.5	51.4	52.7	61.1	61.2
Vehicle Noise:	68.3	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,471 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,276 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.1	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.2	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	182	392
CNEL:	42	91	195	421

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Deerfield Avenue to Poplar Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,226 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,256 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.9	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	416

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,230 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,421 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.62	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	59.5	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	67.6	66.7	63.6	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	196	421
CNEL:	45	97	210	452

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Bridge Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,811 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,387 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.72	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.0
Medium Trucks:	59.4	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	415
CNEL:	44	96	206	445

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Paseo Westpark to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,894 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,394 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.51	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.0
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	193	416
CNEL:	45	96	207	446

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Poplar Street to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,424 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,107 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.51	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-18.75	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-22.70	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.8	53.4	51.8	60.3	60.5
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	83	179	385
CNEL:	41	89	192	413

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: California Avenue to Berkeley Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,793 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,220 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.09	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	67.0	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	381
CNEL:	41	88	190	408

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Culver Drive to California Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,558 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,201 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Berkeley to Bridge Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,466 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,193 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	66.9	66.0	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	174	375
CNEL:	40	87	187	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Harvard Avenue
Road Segment: Warner Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,352 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,102 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.53	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.77	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.73	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	66.5	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	177	381

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Hicks Canyon Drive
Road Segment: Delamesa to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,209 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-8.25	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	75.75	-25.49	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	81.57	-29.45	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.8	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	50.0	49.3	42.9	41.4	49.9	50.1
Heavy Trucks:	51.8	51.2	42.2	43.5	51.8	51.9
Vehicle Noise:	58.0	57.1	53.7	49.3	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Hornet (5th St)
Road Segment: Ridge Valley (O Street) to Bosque

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,393 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	280 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.93	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-22.17	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-26.12	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.4	53.4	51.6	45.6	54.2	54.8
Medium Trucks:	49.3	48.6	42.2	40.7	49.2	49.4
Heavy Trucks:	52.5	51.9	42.9	44.1	52.5	52.6
Vehicle Noise:	57.3	56.5	52.6	48.7	57.2	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	24	52
CNEL:	6	12	26	56

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Hubble
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,425 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	200 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.39	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.62	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.58	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	51.9	50.2	44.1	52.7	53.3
Medium Trucks:	47.8	47.2	40.8	39.2	47.7	47.9
Heavy Trucks:	51.0	50.4	41.4	42.7	51.0	51.1
Vehicle Noise:	55.9	55.0	51.1	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	42
CNEL:	4	10	21	44

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: SR-133 NB Off- Ramp to Ridge Valley (O Street)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,105 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,474 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	72.0	71.1	68.2	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	240	518	1,115
CNEL:	120	258	557	1,200

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: SR-133 SB Off-Ramp to SR-133 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,173 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,314 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.38	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.86	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.81	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.7	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	68.0	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	502	1,081
CNEL:	116	250	540	1,163

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Sand Canyon to SR-133 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,675 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,768 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.94	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.30	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.26	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.2	68.4	62.3	71.0	71.6
Medium Trucks:	64.6	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.7	64.1	55.0	56.3	64.6	64.8
Vehicle Noise:	72.8	71.9	68.9	64.1	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	257	554	1,194
CNEL:	128	277	596	1,285

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Merit to Alton
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,805 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,954 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.3	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,001
CNEL:	108	232	500	1,077

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Journey to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,360 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,000 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.25	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	469	1,011
CNEL:	109	234	505	1,088

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Ridge Valley (O Street) to Bosque (LY Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,486 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,598 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.6
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	70.8	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	919
CNEL:	99	213	459	988

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Pusan Way to Chinon (B Street)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,080 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Palo Lado to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,379 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,671 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.79	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.9	70.0	67.0	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	434	936
CNEL:	101	217	467	1,007

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Culver Drive to Palo Lado

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,081 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,647 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.40	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.7	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.9	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	200	432	930
CNEL:	100	216	464	1,001

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,115 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,567 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.27	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.97	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.7	69.8	66.9	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	196	423	911
CNEL:	98	211	455	980

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Old Myford Road to Market Place
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,303 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,583 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-15.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.90	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.1	66.4	60.3	68.9	69.5
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.8	69.8	66.9	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	197	425	915
CNEL:	98	212	457	984

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Bosque (LY Street) to Modjeska

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,785	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,540	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.5
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	70.7	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	420	905
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Jamboree Road to Old Myford Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,658 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,529 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	419	902
CNEL:	97	209	451	971

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Market Place to SR-261 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,542 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,520 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.7	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	97	209	449	968

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Jeffrey Road to Groveland

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,798 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,541 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.01	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-19.97	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.5
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.5	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	70.7	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	420	905
CNEL:	97	210	452	974

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Bake Parkway to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,721 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,370 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.92	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.2
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	70.4	69.5	66.5	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	401	864
CNEL:	93	200	431	930

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Independence Way (The Groves)/The Groves to JeffreyRoad

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,654 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,364 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.28	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.4	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	863
CNEL:	93	200	431	928

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Chinon (B Street) to Merit

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,405 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,261 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.47	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	70.2	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: SR-261 NB Off-Ramp to Central Park

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,914 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,303 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.39	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	848
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Irvine Boulevard
Job Number: 15937
Road Segment: Pueblo Norte to Independence Way (The Groves)/ Parkwood

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,208 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,245 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.55	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.51	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	387	833
CNEL:	90	193	416	897

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Yale Avenue to Pueblo Norte

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,027 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,230 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.53	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.0
Heavy Trucks:	62.0	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	70.1	69.2	66.2	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	385	830
CNEL:	89	192	414	893

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Modjeska to Pusan Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,040 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,148 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.50	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	188	404	871

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Central Park Avenue to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,271 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,002 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.19	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.05	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.00	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.5	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.7	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	772
CNEL:	83	179	386	831

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Parker to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,781 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,879 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.08	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.32	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.28	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.4	68.5	65.5	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	344	740
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Boulevard
Road Segment: Alton Parkway to Fairbanks
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,955 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,481 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-18.35	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-22.31	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.3	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	632
CNEL:	68	146	315	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Irvine Center Drive
Job Number: 15937
Road Segment: Entertainment (Enterprise/Fortune) to I-405 SB Off- Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,865 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,361 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.99	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.25	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.21	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.3	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.4	71.5	68.4	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	521	1,122
CNEL:	121	260	559	1,205

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Orange Tree to Valley Oak Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,280 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,983 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.8	67.1	61.0	69.6	70.2
Medium Trucks:	63.5	62.8	56.4	54.9	63.3	63.6
Heavy Trucks:	63.9	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.6	70.7	67.6	62.8	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	483	1,041
CNEL:	112	241	519	1,118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: I-405 SB Off-Ramp to Research

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,133 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,971 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.58	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.66	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.61	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.2	67.5	61.4	70.0	70.6
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.0	71.1	68.0	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	227	489	1,054
CNEL:	113	244	525	1,132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Irvine Valley College to Orange Tree

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,178	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,892	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.74	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.4	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	221	476	1,025
CNEL:	110	237	511	1,101

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Fontaine Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,870 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,702 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.92	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.6	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.3	70.4	67.3	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	214	460	991
CNEL:	107	229	494	1,065

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Culver Drive to Deerwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,248 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,650 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.1	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.3	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	212	456	982
CNEL:	106	227	490	1,055

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Deerwood to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,804 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,614 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.02	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	63.5	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	71.2	70.3	67.2	62.4	71.0	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	210	453	976
CNEL:	105	226	486	1,048

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Yale Avenue to Fontaine Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,189 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,646 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.99	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.1	62.4	56.0	54.5	63.0	63.2
Heavy Trucks:	63.5	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.2	70.3	67.2	62.5	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	211	455	981
CNEL:	105	227	489	1,054

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Jeffrey Road to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,078 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,554 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.10	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.14	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.10	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.3	66.6	60.5	69.1	69.7
Medium Trucks:	63.0	62.3	55.9	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.1	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	208	448	965
CNEL:	104	223	481	1,036

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Alton Parkway to Spectrum

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,201 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,317 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	62.7	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.8	69.9	66.8	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	428	921
CNEL:	99	213	459	990

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Spectrum to Pacifica

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,643 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,271 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	62.6	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.7	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	197	424	913
CNEL:	98	211	455	981

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Hearthstone to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,654 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,189 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	193	417	897
CNEL:	96	208	448	964

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Charter to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,036 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.82	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.78	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	933

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Jamboree Road to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,164 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,901 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.22	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.02	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.6	68.3	68.9
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	391	843
CNEL:	91	195	420	905

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Pacifica to Entertainment (Enterprise/Fortune)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,691 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,944 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.28	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.96	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.91	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.2	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.6	62.0	52.9	54.2	62.6	62.7
Vehicle Noise:	70.3	69.4	66.3	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	395	851
CNEL:	91	197	424	914

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,398 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,920 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.25	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.99	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.95	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.1	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	62.5	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	182	393	846
CNEL:	91	196	422	909

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Harvard Avenue to Hearthstone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,081 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,729 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.95	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.29	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.7	52.6	53.9	62.2	62.3
Vehicle Noise:	70.0	69.0	66.0	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	376	809
CNEL:	87	187	403	869

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Research to Hubble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,315 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,584 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.52	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	61.6	60.9	54.5	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	362	780
CNEL:	84	181	389	838

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Barranca Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,428 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,510 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.5	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.6	60.8	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	355	765
CNEL:	82	177	382	822

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,410 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,509 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.59	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.65	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.61	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.5	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.6	60.8	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	165	355	765
CNEL:	82	177	381	822

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Discovery to Charter

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,581 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,523 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.61	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.63	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.58	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	768
CNEL:	82	178	383	825

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Hubble to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,602 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,360 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.32	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.8	58.7	67.4	68.0
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.3	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	341	734
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Muller to Tesla

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,299 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,252 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	69.1	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	153	330	712
CNEL:	76	165	355	765

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Sand Canyon Avenue to Odyssey

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,025 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,147 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.91	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.28	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	60.8	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	320	689
CNEL:	74	160	344	741

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Tesla to Scientific Way

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,537 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,107 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.83	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.41	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.37	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.1	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.9	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	316	681
CNEL:	73	158	339	731

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Scientific Way to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,377 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,011 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.63	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.61	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	60.5	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.6	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	142	306	660
CNEL:	71	153	329	709

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Gateway Boulevard to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,257 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,919 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.42	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.82	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	640
CNEL:	69	148	319	687

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Laguna Canyon Road to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,090 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,905 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.39	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.85	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.80	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.9	57.8	66.4	67.0
Medium Trucks:	60.3	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.4	67.5	64.4	59.6	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	295	637
CNEL:	68	147	317	684

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive
Road Segment: Odyssey to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,690 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,872 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-16.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-20.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.7	66.4	67.0
Medium Trucks:	60.2	59.5	53.1	51.6	60.1	60.3
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.3	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	292	629
CNEL:	68	146	314	676

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Irvine Center Drive (Edinger)
Road Segment: Redhill Avenue to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,103 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,226 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.68	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.56	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.52	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	62.5	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.0	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	70.7	69.8	66.7	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	420	904
CNEL:	97	209	451	972

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: I-5 SB Off-Ramp to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,825 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,761 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.78	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-12.46	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-16.41	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.1	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	73.3	70.4	65.5	74.0	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	156	337	725	1,562
CNEL:	168	362	780	1,681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: I-405 SB Off-Ramp to I-405 NB Off Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,685 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	6,739 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.46	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-11.77	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-15.73	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.8	72.7	70.9	64.9	73.5	74.1
Medium Trucks:	67.1	66.5	60.1	58.6	67.0	67.3
Heavy Trucks:	67.2	66.6	57.6	58.8	67.2	67.3
Vehicle Noise:	75.3	74.4	71.5	66.6	75.1	75.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	176	379	817	1,759
CNEL:	189	408	878	1,893

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Walnut Avenue to Michelle Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,362 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,980 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.1	71.8	72.4
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.5	64.9	55.8	57.1	65.4	65.6
Vehicle Noise:	73.6	72.7	69.7	64.9	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	305	658	1,418
CNEL:	153	329	708	1,525

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: I-405 NB Off-Ramp to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	81,725	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	6,742	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.47	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.77	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-15.73	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.1	74.1	72.3	66.3	74.9	75.5
Medium Trucks:	68.5	67.9	61.5	60.0	68.4	68.6
Heavy Trucks:	68.6	68.0	58.9	60.2	68.5	68.7
Vehicle Noise:	76.7	75.8	72.8	68.0	76.5	77.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	272	585	1,261	2,718
CNEL:	292	630	1,357	2,924

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Michelle Drive to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,750 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,764 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.8	69.0	63.0	71.6	72.2
Medium Trucks:	65.2	64.6	58.2	56.7	65.1	65.3
Heavy Trucks:	65.3	64.7	55.6	56.9	65.2	65.4
Vehicle Noise:	73.4	72.5	69.5	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	138	297	639	1,376
CNEL:	148	319	687	1,481

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Main Street to Kelvin Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	70,902 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,849 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.85	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.39	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.35	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.5	73.5	71.7	65.6	74.3	74.9
Medium Trucks:	67.9	67.2	60.9	59.3	67.8	68.0
Heavy Trucks:	67.9	67.4	58.3	59.6	67.9	68.0
Vehicle Noise:	76.1	75.2	72.2	67.3	75.9	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	247	533	1,147	2,472
CNEL:	266	573	1,234	2,659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	87,488	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	7,218	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	130	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	110.0	feet
Centerline Dist. to Observer:	110.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	88.792
Medium Trucks:	88.747
Heavy Trucks:	88.792

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.76	-3.84	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-11.48	-3.84	-1.20	*-4.96*	0.000	0.000
Heavy Trucks:	86.40	-15.43	-3.84	-1.20	*-5.14*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.8
Medium Trucks:	65.9	65.2	58.9	57.3	65.8	66.0
Heavy Trucks:	65.9	65.3	56.3	57.5	65.9	66.0
Vehicle Noise:	74.1	73.1	70.2	65.3	73.9	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	430	925	1,994
CNEL:	214	462	996	2,145

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Kelvin Avenue to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,797 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,428 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.52	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.71	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.67	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.2	73.1	71.4	65.3	73.9	74.5
Medium Trucks:	67.6	66.9	60.6	59.0	67.5	67.7
Heavy Trucks:	67.6	67.0	58.0	59.2	67.6	67.7
Vehicle Noise:	75.8	74.8	71.9	67.0	75.6	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	235	507	1,092	2,352
CNEL:	253	545	1,174	2,530

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: McGaw Avenue to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,261 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,384 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.49	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-12.75	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-16.71	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.2	73.1	71.3	65.3	73.9	74.5
Medium Trucks:	67.6	66.9	60.5	59.0	67.4	67.7
Heavy Trucks:	67.6	67.0	58.0	59.2	67.6	67.7
Vehicle Noise:	75.7	74.8	71.9	67.0	75.5	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	234	504	1,086	2,339
CNEL:	252	542	1,168	2,516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Birch Street to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,881 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,033 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.23	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.00	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.96	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.2	70.9	71.5
Medium Trucks:	64.5	63.8	57.5	55.9	64.4	64.6
Heavy Trucks:	64.5	64.0	54.9	56.2	64.5	64.6
Vehicle Noise:	72.7	71.8	68.8	63.9	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	265	572	1,232
CNEL:	132	285	615	1,325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,705 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,513 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.72	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.52	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.47	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	71.0	69.2	63.1	71.8	72.4
Medium Trucks:	65.4	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	65.4	64.9	55.8	57.1	65.4	65.5
Vehicle Noise:	73.6	72.7	69.7	64.8	73.4	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	135	290	625	1,347
CNEL:	145	312	672	1,449

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Alton Parkway to Beckman

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,551 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,913 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.09	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.15	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.10	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.8	72.7	70.9	64.9	73.5	74.1
Medium Trucks:	67.2	66.5	60.1	58.6	67.0	67.3
Heavy Trucks:	67.2	66.6	57.6	58.8	67.2	67.3
Vehicle Noise:	75.3	74.4	71.5	66.6	75.1	75.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	220	474	1,021	2,201
CNEL:	237	510	1,099	2,367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Fairchild Road to Birch Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,091 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,133 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.34	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.90	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.85	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.7	71.4	72.0
Medium Trucks:	65.0	64.4	58.0	56.4	64.9	65.1
Heavy Trucks:	65.1	64.5	55.4	56.7	65.0	65.2
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	127	274	589	1,270
CNEL:	137	294	634	1,366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Beckman to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,555 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,583 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.79	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.45	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.5	72.4	70.6	64.6	73.2	73.8
Medium Trucks:	66.9	66.2	59.8	58.3	66.7	67.0
Heavy Trucks:	66.9	66.3	57.3	58.5	66.9	67.0
Vehicle Noise:	75.0	74.1	71.2	66.3	74.8	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	210	453	975	2,101
CNEL:	226	487	1,049	2,260

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: I-5 NB Off-Ramp to El Camino Real
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,710	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,349	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.56	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.68	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.63	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.2	72.2	70.4	64.3	73.0	73.6
Medium Trucks:	66.6	66.0	59.6	58.0	66.5	66.7
Heavy Trucks:	66.7	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.8	73.9	70.9	66.1	74.6	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	437	942	2,029
CNEL:	218	470	1,013	2,182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Campus Drive to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,225 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,814 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.99	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.25	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.20	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.3	70.2	68.5	62.4	71.0	71.6
Medium Trucks:	64.7	64.0	57.6	56.1	64.6	64.8
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.9	71.9	69.0	64.1	72.7	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	120	259	559	1,204
CNEL:	129	279	601	1,295

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: El Camino Real to West Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,214 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.42	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.81	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.77	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	66.5	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	66.5	65.9	56.9	58.1	66.5	66.6
Vehicle Noise:	74.7	73.7	70.8	65.9	74.5	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	428	922	1,987
CNEL:	214	460	992	2,137

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: West Drive to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,212	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,225	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.44	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-13.80	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-17.76	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.1	72.0	70.3	64.2	72.8	73.5
Medium Trucks:	66.5	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	66.5	65.9	56.9	58.2	66.5	66.6
Vehicle Noise:	74.7	73.8	70.8	65.9	74.5	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	199	429	924	1,990
CNEL:	214	461	994	2,141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Bryan Avenue to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,448 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,914 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.10	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	82.40	-14.13	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	86.40	-18.09	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	69.9	63.9	72.5	73.1
Medium Trucks:	66.2	65.5	59.1	57.6	66.0	66.3
Heavy Trucks:	66.2	65.6	56.6	57.8	66.2	66.3
Vehicle Noise:	74.4	73.4	70.5	65.6	74.2	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	189	407	878	1,891
CNEL:	203	438	944	2,035

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Koll Center to Fairchild Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,485 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.60	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.64	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.59	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.1	62.0	70.6	71.2
Medium Trucks:	64.3	63.6	57.2	55.7	64.2	64.4
Heavy Trucks:	64.3	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.5	71.5	68.6	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	526	1,133
CNEL:	122	263	566	1,219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: MacArthur Boulevard to Koll Center

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,473	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,422	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	80.0	feet
Centerline Dist. to Observer:	80.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.52	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-14.72	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-18.67	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.2	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.2	63.6	54.6	55.9	64.2	64.3
Vehicle Noise:	72.4	71.5	68.5	63.6	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	241	520	1,120
CNEL:	120	259	559	1,204

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Irvine Boulevard to Portola Pakway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,128 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,403 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.4	69.5	66.6	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	872
CNEL:	94	202	436	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Warner Avenue to Edinger Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	87,248 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	7,198 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.75	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-11.49	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-15.44	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	77.3	76.2	74.5	68.4	77.0	77.6
Medium Trucks:	70.7	70.0	63.7	62.1	70.6	70.8
Heavy Trucks:	70.7	70.1	61.1	62.3	70.7	70.8
Vehicle Noise:	78.9	77.9	75.0	70.1	78.7	79.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	242	522	1,125	2,423
CNEL:	261	562	1,210	2,607

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Barranca Parkway to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	72,206 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,957 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.93	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.31	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.27	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.5	75.4	73.6	67.6	76.2	76.8
Medium Trucks:	69.9	69.2	62.8	61.3	69.8	70.0
Heavy Trucks:	69.9	69.3	60.3	61.5	69.9	70.0
Vehicle Noise:	78.1	77.1	74.2	69.3	77.9	78.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	214	460	991	2,136
CNEL:	230	495	1,067	2,298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jamboree Road
Road Segment: Edinger Avenue to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,688 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,502 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	96 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.438
Medium Trucks:	42.344
Heavy Trucks:	42.439

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.58	0.96	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-12.66	0.98	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-16.61	0.96	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	76.1	75.1	73.3	67.2	75.9	76.5
Medium Trucks:	69.5	68.9	62.5	60.9	69.4	69.6
Heavy Trucks:	69.5	69.0	59.9	61.2	69.5	69.7
Vehicle Noise:	77.7	76.8	73.8	69.0	77.5	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	436	940	2,026
CNEL:	218	469	1,012	2,179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Walnut Avenue to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,176 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,635 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.49	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	63.0	62.4	56.0	54.4	62.9	63.1
Heavy Trucks:	63.9	63.3	54.2	55.5	63.9	64.0
Vehicle Noise:	71.1	70.2	67.1	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	208	449	967
CNEL:	104	223	481	1,037

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: I-5 NB Off-Ramp to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,037 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,201 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.21	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.03	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-15.98	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.9	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.0	71.1	68.0	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	228	491	1,059
CNEL:	114	245	527	1,136

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Poplar (Meadows) to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,683 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,181 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-12.98	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-16.93	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.4	62.8	53.8	55.1	63.4	63.5
Vehicle Noise:	70.7	69.8	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	419	903
CNEL:	97	209	449	968

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,443 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,079 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.08	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.5	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.6	69.6	66.5	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	191	412	888
CNEL:	95	205	442	952

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Irvine Center Drive to Poplar (Meadows)
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,484 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,000 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.07	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.17	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	70.5	69.6	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	876
CNEL:	94	203	436	940

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: I-405 NB Off-Ramp to Quail Creek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,021 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,044 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.12	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.12	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.08	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.4	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	883
CNEL:	95	204	439	947

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Barranca Parkway to Irvine Valley College

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,228 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,896 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.96	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.28	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.24	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.6	68.3	68.9
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.4	69.4	66.3	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	400	861
CNEL:	92	199	429	924

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Quail Creek to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,578	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,925	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	84.0	feet
Centerline Dist. to Observer:	84.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.21	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	70.4	69.5	66.3	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	186	402	865
CNEL:	93	200	431	928

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Irvine Valley College to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,665 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,685 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.1
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.1	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	385	830
CNEL:	89	192	413	890

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Trabuco Road to Hideaway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,113 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,144 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.21	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	346	746
CNEL:	80	172	372	801

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Hideaway to Bryan Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,065 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,140 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.4	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	346	746
CNEL:	80	172	371	800

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Roosevelt to Grove

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,531 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,344 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.29	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.95	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.90	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.1	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	182	393	846

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Grove to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,167 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,231 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.14	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.10	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.05	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.9	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.0	69.0	65.9	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	771
CNEL:	83	178	384	827

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Bryan Avenue to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,277 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,415 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.88	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.36	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.2	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.0	60.5	51.4	52.7	61.0	61.1
Vehicle Noise:	68.3	67.4	64.2	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	626
CNEL:	67	145	312	672

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Encore to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,766 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,218 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.09	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.33	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.29	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.2	56.6	50.2	48.6	57.1	57.3
Heavy Trucks:	58.1	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	65.3	64.4	61.2	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	397
CNEL:	43	92	197	425

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeffrey Road
Road Segment: Irvine Boulevard to Encore

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,204 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,172 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.26	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-18.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-22.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.2	60.5	54.4	63.0	63.6
Medium Trucks:	57.1	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.1	64.2	61.1	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	83	179	386
CNEL:	41	89	192	415

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeronimo Road
Road Segment: Goodyear to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,959 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	657 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	56.2	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	57.0	56.4	47.4	48.7	57.0	57.1
Vehicle Noise:	64.3	63.4	60.2	55.5	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	252
CNEL:	27	58	125	270

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Jeronimo Road
Road Segment: Alton Parkway to Goodyear

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,468 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	616 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	56.8	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.0	63.1	59.9	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Old Laguna Canyon Road to Lake Forest Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,875 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,445 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.66	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-13.58	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-17.54	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	64.9	64.3	57.9	56.3	64.8	65.0
Heavy Trucks:	65.0	64.4	55.3	56.6	64.9	65.1
Vehicle Noise:	73.1	72.2	69.2	64.4	72.9	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	283	610	1,314
CNEL:	141	305	656	1,414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Laguna Canyon Freeway to Quail Hill Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,794 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,386 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.64	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.60	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	269	579
CNEL:	62	134	289	623

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Discovery to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,867 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,144 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	60.7	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	60.7	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.9	67.9	65.0	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	237	510
CNEL:	55	118	255	548

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: I-405 Overcrossing to Pasteur

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,576 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	707 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.91	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.15	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.11	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.6	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	341
CNEL:	37	79	170	366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Irvine Center Drive to Discovery

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,516 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	785 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.1	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	67.2	66.3	63.4	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	397
CNEL:	43	92	198	427

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Quail Hill Parkway to I-405 Overcrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,576 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	707 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.91	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.15	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.11	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.6	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	341
CNEL:	37	79	170	366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Pasteur to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,455 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	698 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-4.39	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-21.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-25.58	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	58.5	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	58.6	58.0	48.9	50.2	58.6	58.7
Vehicle Noise:	66.7	65.8	62.8	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	367
CNEL:	39	85	183	394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Waterworks to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,346 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	606 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.00	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.19	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.0
Heavy Trucks:	58.0	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	66.1	65.2	62.2	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,917 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	571 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-22.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	57.7	57.0	50.6	49.1	57.6	57.8
Heavy Trucks:	57.7	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	65.9	64.9	62.0	57.1	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	321
CNEL:	34	74	160	345

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Laguna Canyon Road
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,120 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	505 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.79	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-23.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-26.98	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	57.1	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	57.2	56.6	47.5	48.8	57.1	57.3
Vehicle Noise:	65.3	64.4	61.4	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	137	296
CNEL:	32	68	148	318

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Lake Forest Drive
Road Segment: Hidden Canyon to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,173 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,582 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.3	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	250	539
CNEL:	58	125	269	579

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Lake Forest Drive
Road Segment: Bake Parkway to Hidden Canyon (Romano)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,999 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,567 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.46	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.70	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.65	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.5	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.2	68.3	65.2	60.4	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	58	124	267	576

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Lake Forest Drive
Road Segment: Tesla to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,318 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,181 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.69	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-18.92	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-22.88	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.2	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	58.6	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	66.3	65.4	62.4	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	463
CNEL:	50	107	231	497

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Lake Road
Road Segment: Alton Parkway to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,144 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	507 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.35	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	70.80	-19.59	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	77.97	-23.54	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.1	55.0	53.3	47.2	55.8	56.4
Medium Trucks:	50.9	50.3	43.9	42.4	50.8	51.0
Heavy Trucks:	54.1	53.6	44.5	45.8	54.1	54.2
Vehicle Noise:	59.0	58.1	54.2	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	42	90
CNEL:	10	21	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Lynx
Road Segment: Irvine Boulevard to Astor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,246 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	103 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-9.28	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-26.52	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-30.47	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.1	49.0	47.3	41.2	49.8	50.4
Medium Trucks:	44.9	44.3	37.9	36.4	44.8	45.0
Heavy Trucks:	48.1	47.5	38.5	39.8	48.1	48.2
Vehicle Noise:	53.0	52.1	48.2	44.3	52.8	53.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	12	27
CNEL:	3	6	13	28

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: I-405 SB Off-Ramp to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,683 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,089 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.87	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.37	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.33	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	75.0	73.9	72.1	66.1	74.7	75.3
Medium Trucks:	68.2	67.5	61.2	59.6	68.1	68.3
Heavy Trucks:	67.9	67.3	58.3	59.5	67.9	68.0
Vehicle Noise:	76.5	75.5	72.6	67.7	76.3	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	261	562	1,212	2,610
CNEL:	281	606	1,305	2,812

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Main Street to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,713 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,009 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.80	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.44	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.40	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.9	73.8	72.1	66.0	74.6	75.3
Medium Trucks:	68.1	67.5	61.1	59.6	68.0	68.3
Heavy Trucks:	67.8	67.2	58.2	59.4	67.8	67.9
Vehicle Noise:	76.4	75.5	72.6	67.6	76.2	76.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	258	556	1,199	2,583
CNEL:	278	599	1,291	2,782

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: I-405 NB Off-Ramp and I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,791 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,933 vehicles
Vehicle Speed:	60 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	73.22	3.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	83.68	-13.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	87.33	-17.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.8	73.8	72.0	66.0	74.6	75.2
Medium Trucks:	68.1	67.4	61.0	59.5	68.0	68.2
Heavy Trucks:	67.8	67.2	58.1	59.4	67.7	67.9
Vehicle Noise:	76.3	75.4	72.5	67.6	76.1	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	256	551	1,187	2,557
CNEL:	275	593	1,278	2,754

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Jamboree Road to Fairchild Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,795 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,283 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.03	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.6
Heavy Trucks:	62.4	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	357	768
CNEL:	82	178	382	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Fairchild Road to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,408 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,251 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.17	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.07	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.02	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	61.5	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	69.6	68.7	65.5	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	354	763
CNEL:	82	176	380	819

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Fitch to Red Hill Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,553 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,428 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.40	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.84	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.79	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.1	61.5	55.1	53.5	62.0	62.2
Heavy Trucks:	63.0	62.4	53.3	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	173	372	802
CNEL:	86	185	399	860

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Michelson Drive to Douglas

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,212	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,730	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.77	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.47	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.43	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.2	69.9	70.5
Medium Trucks:	63.9	63.2	56.8	55.3	63.8	64.0
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	72.0	71.0	67.9	63.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	282	608	1,310
CNEL:	141	303	652	1,405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Douglas to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,000	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	3,713	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.75	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-13.49	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-17.45	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.9	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	64.7	64.1	55.1	56.3	64.7	64.8
Vehicle Noise:	71.9	71.0	67.9	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	131	281	606	1,306
CNEL:	140	302	650	1,401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Skypark to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,180 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,737 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.42	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.82	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.77	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	320	690
CNEL:	74	160	344	740

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Redhill Avenue to Skypark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,075 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,316 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.70	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.54	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.50	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	609
CNEL:	65	141	303	653

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Birch Street to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,177 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,747 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.77	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.6	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	66.9	66.0	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	504
CNEL:	54	117	251	541

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: MacArthur Boulevard
Road Segment: Campus Drive to Birch Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,972 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.00	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	79.45	-16.24	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	84.25	-20.20	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.1	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.9	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	69.2	68.3	65.1	60.4	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	398	857
CNEL:	92	198	427	919

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Gillette Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,818 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,697 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.73	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.51	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-17.47	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.5	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.5	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	391	843
CNEL:	90	195	420	905

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: MacArthur Boulevard to Mercantile

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,493 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,258 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.18	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-14.06	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-18.02	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.0	69.1	65.9	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	167	360	775
CNEL:	83	179	386	832

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Executive Park to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,337 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,338 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.46	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	60.1	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.1	67.2	64.1	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	284	613
CNEL:	66	142	305	657

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Von Karman Avenue to Cartwright

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,170 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,324 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.4	53.0	51.5	59.9	60.1
Heavy Trucks:	60.9	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.1	67.2	64.1	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	283	610
CNEL:	65	141	304	654

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: McDurmott to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,342 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,173 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.42	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.82	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.77	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.7	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	67.8	66.9	63.8	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	583
CNEL:	63	135	290	626

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Red Hill Avenue to Executive Circle
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,776 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,127 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.33	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.91	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.87	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.5	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	575
CNEL:	62	133	286	617

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Jamboree Road to Union

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,761 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,043 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.15	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.04	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	560
CNEL:	60	129	279	601

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Culver Drive to West Yale Loop
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,599 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,204 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.7	59.8
Vehicle Noise:	66.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Siglo to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,041 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,983 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.17	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.3	58.7	52.3	50.8	59.2	59.5
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.4	66.5	63.4	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	273	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Veneto to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,207 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,915 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.87	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.37	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.32	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.4	64.4	62.6	56.5	65.2	65.8
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.0	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	67.3	66.4	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	536
CNEL:	58	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Paseo Westpark to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,068 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	996 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.0	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	58.8	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	66.1	65.2	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	154	332
CNEL:	36	77	166	357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Main Street
Road Segment: Harvard Avenue to San Mateo

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,928 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	984 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.26	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	330
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Marine Way
Job Number: 15937
Road Segment: Sand Canyon Avenue to Ridge Valley (O Street)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,541 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,345 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.80	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	77.72	-13.43	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	82.99	-17.39	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	64.0	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	65.3	64.7	55.7	56.9	65.3	65.4
Vehicle Noise:	72.0	71.1	67.9	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	664
CNEL:	71	153	330	711

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: Alton Parkway to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,983 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,639 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	61.0	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	62.3	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	69.0	68.2	64.9	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	113	244	525
CNEL:	56	121	261	562

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: Lynx to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,277 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,663 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-14.42	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-18.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	61.1	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	62.4	61.8	52.7	54.0	62.4	62.5
Vehicle Noise:	69.1	68.2	64.9	60.4	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	528
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: County Access to Treble

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,072 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,151 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.89	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	60.1	59.5	53.1	51.5	60.0	60.2
Heavy Trucks:	61.4	60.9	51.8	53.1	61.4	61.5
Vehicle Noise:	68.2	67.3	64.0	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	458
CNEL:	49	106	228	490

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: Ridge Valley (O Street) to Skyhawk

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,784 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,045 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.57	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.53	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.9	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	67.9	67.0	63.8	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	205	443
CNEL:	47	102	220	474

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: Skyhawk to County Access

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,473 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,607 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.62	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.62	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.9	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	66.9	66.0	62.7	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	187	404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,909 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,478 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.94	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	177	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Marine Way
Road Segment: Treble to Lynx

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,505 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,362 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.34	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.3	55.3	63.9	64.5
Medium Trucks:	58.1	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.5	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	66.2	65.3	62.0	57.5	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	157	338
CNEL:	36	78	168	361

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: McGaw Avenue
Road Segment: Von Karman Avenue to Jamboree Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,966 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,152 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.44	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	59.0	52.9	61.5	62.2
Medium Trucks:	56.0	55.4	49.0	47.4	55.9	56.1
Heavy Trucks:	57.9	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	64.0	63.2	59.7	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	260

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: McGaw Avenue
Road Segment: Red Hill Avenue to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,754 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,135 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.31	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-17.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-21.50	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	56.0	55.3	48.9	47.4	55.8	56.1
Heavy Trucks:	57.8	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	64.0	63.1	59.7	55.3	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	55	119	257

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: McGaw Avenue
Road Segment: Daimler to Red Hill Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,179 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	757 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-2.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-19.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-23.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.1	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	62.2	61.3	57.9	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	85	184
CNEL:	20	42	91	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: McGaw Avenue
Road Segment: Jamboree Road to Murphy Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,528 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	374 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-22.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-26.33	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.9	55.9	54.1	48.0	56.7	57.3
Medium Trucks:	51.1	50.5	44.1	42.6	51.0	51.3
Heavy Trucks:	53.0	52.4	43.4	44.6	53.0	53.1
Vehicle Noise:	59.1	58.3	54.8	50.4	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	25	53	115
CNEL:	12	26	57	123

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Meadowood
Road Segment: Culver Drive to Canyonwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,920 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	901 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.09	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.05	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.6	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	51.5	50.8	44.4	42.9	51.3	51.6
Heavy Trucks:	54.7	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	59.5	58.7	54.8	50.9	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Meridian
Road Segment: Spectrum to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,685 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	222 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-6.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-23.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-27.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.8	51.7	49.9	43.9	52.5	53.1
Medium Trucks:	47.3	46.6	40.2	38.7	47.1	47.4
Heavy Trucks:	49.7	49.2	40.1	41.4	49.7	49.9
Vehicle Noise:	55.3	54.4	50.8	46.6	55.1	55.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	29	64
CNEL:	7	15	31	68

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Meridian
Road Segment: Alton Parkway to Gateway Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,205 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	182 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-7.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-24.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-28.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.9	50.9	49.1	43.0	51.7	52.3
Medium Trucks:	46.4	45.7	39.4	37.8	46.3	46.5
Heavy Trucks:	48.9	48.3	39.3	40.5	48.9	49.0
Vehicle Noise:	54.4	53.6	49.9	45.7	54.2	54.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Merit
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,731 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	308 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-4.52	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-21.75	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-25.71	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.9	53.8	52.0	46.0	54.6	55.2
Medium Trucks:	49.7	49.0	42.7	41.1	49.6	49.8
Heavy Trucks:	52.9	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	57.7	56.9	53.0	49.1	57.6	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	27	59

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Riparian to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,198 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,079 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.74	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	60.0	59.3	52.9	51.4	59.9	60.1
Heavy Trucks:	61.3	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.0	67.1	63.8	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	208	448
CNEL:	48	103	222	479

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Almond Tree Lane to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,921 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	818 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.31	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.55	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.50	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	59.5	50.5	51.8	60.1	60.2
Vehicle Noise:	66.8	66.0	62.7	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	225
CNEL:	24	52	112	240

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Von Karman Avenue to Obsidian

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,736 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,958 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.48	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.76	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	59.7	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	61.0	60.4	51.4	52.7	61.0	61.1
Vehicle Noise:	67.8	66.9	63.6	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	430
CNEL:	46	99	214	461

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Parkside to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,429 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,850 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	59.5	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.8	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	67.5	66.6	63.3	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	414
CNEL:	44	96	206	443

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Gillman to Seton/Sandburg Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,208 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	760 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.63	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-19.87	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	82.99	-23.83	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.7	55.6	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.5	65.6	62.3	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	99	214
CNEL:	23	49	106	229

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Carlson to Prince

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,093	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	2,235	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	52	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	75.0	feet
Centerline Dist. to Observer:	75.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.05	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	77.72	-15.18	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	82.99	-19.14	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.0	66.1	62.9	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	463
CNEL:	50	107	230	495

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: MacArthur Boulevard to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,337 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,678 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.81	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.0	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	60.4	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	67.1	66.2	62.9	58.4	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	415

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Harvard Avenue to Parkside
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,003 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,485 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-16.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-20.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.5	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.8	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	66.6	65.7	62.4	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	358
CNEL:	38	83	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Bixby to Von Karman Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,647 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,456 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.5
Heavy Trucks:	59.7	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	66.5	65.6	62.3	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	353
CNEL:	38	81	175	378

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Jamboree Road to Carlson

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,364 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,093 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.77	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.47	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.43	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.3	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.3	68.4	65.2	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	245	527
CNEL:	56	122	262	564

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Teller to Jamboree Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,112 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.81	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-15.43	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-19.39	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.4	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	69.4	68.5	65.2	60.7	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	530
CNEL:	57	122	264	568

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Jordan East to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,782 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	560 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.96	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-21.20	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-25.16	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.7	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	60.0	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	66.7	65.8	62.5	58.0	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	81	175
CNEL:	19	40	87	188

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Michelson Drive
Road Segment: Culver Drive to Angell

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,789 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	725 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.84	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	77.72	-20.07	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	82.99	-24.03	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	57.9	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	59.2	58.6	49.6	50.9	59.2	59.3
Vehicle Noise:	65.9	65.1	61.8	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	209
CNEL:	22	48	104	223

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Modjeska (A Street)
Road Segment: Portola Springs to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,817 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,140 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	27.659
Medium Trucks:	27.514
Heavy Trucks:	27.659

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.38	3.75	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	79.45	-18.62	3.79	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	84.25	-22.58	3.75	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.6	66.8	60.7	69.4	70.0
Medium Trucks:	63.4	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	64.2	63.6	54.6	55.9	64.2	64.3
Vehicle Noise:	71.5	70.6	67.4	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	169	365
CNEL:	39	84	182	392

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Modjeska (A Street)
Road Segment: South of Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,834 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	151 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.15	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-27.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-31.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.9	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	52.7	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	53.5	53.0	43.9	45.2	53.5	53.6
Vehicle Noise:	60.8	59.9	56.7	52.0	60.6	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	88
CNEL:	9	20	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Muirlands Boulevard
Road Segment: Bake Parkway to City Limits
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,807 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,222 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.9	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	67.0	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	381
CNEL:	41	88	190	409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Muirlands Boulevard
Road Segment: Alton Parkway to Sterling

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Muirlands Boulevard
Road Segment: Wrigley to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,970 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.24	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.20	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.6
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	331
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Newport Coast Drive
Road Segment: SR-73 NB Off-Ramp to Turtle Ridge

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,428 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.13	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.09	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.4	65.5	62.2	57.7	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	348
CNEL:	37	80	173	373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Newport Coast Drive
Road Segment: Turtle Crest to Bonita Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,122 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,000 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.63	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	58.1	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	64.8	63.9	60.7	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	128	275
CNEL:	29	63	137	294

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Nightmist
Road Segment: Sand Canyon Avenue to Tulip (Road C)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,501 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	949 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.66	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.1	58.0	56.3	50.2	58.8	59.4
Medium Trucks:	53.6	52.9	46.6	45.0	53.5	53.7
Heavy Trucks:	56.1	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	61.6	60.7	57.1	52.9	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	78	167
CNEL:	18	38	83	178

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Northwood
Road Segment: Yale Avenue to Savannah

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,741 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	391 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.94	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-22.17	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-26.13	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.0	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	54.2	53.6	47.2	45.6	54.1	54.3
Heavy Trucks:	56.1	55.5	46.4	47.7	56.1	56.2
Vehicle Noise:	62.2	61.3	57.9	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	111
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Northwood
Road Segment: Goldrush to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,801 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	314 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.90	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.13	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.09	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	53.3	52.6	46.2	44.7	53.2	53.4
Heavy Trucks:	55.1	54.5	45.5	46.7	55.1	55.2
Vehicle Noise:	61.3	60.4	56.9	52.6	61.1	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	44	95
CNEL:	10	22	47	102

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Oak Canyon Drive
Road Segment: Valley Oak Drive to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,109 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	999 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.96	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.19	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.15	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.7	61.2	52.1	53.4	61.7	61.8
Vehicle Noise:	69.0	68.1	64.9	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	311
CNEL:	33	72	155	334

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Pacifica
Road Segment: Gateway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,565 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,037 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-22.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.0	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	58.3	57.7	48.6	49.9	58.3	58.4
Vehicle Noise:	65.0	64.1	60.8	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	281
CNEL:	30	65	140	301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Pacifica
Road Segment: Alton Parkway to Gateway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,495 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	783 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.50	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.1	48.7	47.2	55.6	55.9
Heavy Trucks:	57.1	56.5	47.4	48.7	57.0	57.2
Vehicle Noise:	63.8	62.9	59.6	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	234
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Pacifica
Job Number: 15937
Road Segment: Irvine Center Drive to Fortune Drive (Spectrum Center Drive)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,083 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	584 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.01	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	59.4	57.7	51.6	60.2	60.8
Medium Trucks:	54.5	53.8	47.4	45.9	54.3	54.6
Heavy Trucks:	55.8	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	62.5	61.6	58.3	53.8	62.3	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	192
CNEL:	21	44	95	206

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Pacifica
Road Segment: Meridian to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,479 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	370 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-23.00	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-26.96	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	57.4	55.7	49.6	58.2	58.8
Medium Trucks:	52.5	51.8	45.4	43.9	52.4	52.6
Heavy Trucks:	53.8	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	60.5	59.6	56.3	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	66	142
CNEL:	15	33	70	152

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Park Place
Road Segment: Christamon South to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,750 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	309 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-5.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-22.52	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-26.48	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.2	53.2	51.4	45.3	54.0	54.6
Medium Trucks:	48.7	48.0	41.7	40.1	48.6	48.8
Heavy Trucks:	51.2	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	56.7	55.9	52.2	48.0	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Portola Parkway
Job Number: 15937
Road Segment: Bee Canyon Access Road to Sand Canyon Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,775 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,044 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.7	53.6	54.9	63.2	63.3
Vehicle Noise:	71.4	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	348	751
CNEL:	81	174	375	808

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Jeffrey Road to Bee Canyon Access Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,694 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,037 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-16.97	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-20.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.2	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	63.2	62.6	53.6	54.9	63.2	63.3
Vehicle Noise:	71.4	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	348	749
CNEL:	81	174	374	806

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Arrowhead to Ridge Valley Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,621 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,949 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.07	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.12	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	70.0
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.0	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	71.2	70.3	67.3	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	157	338	727
CNEL:	78	169	363	782

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Sand Canyon Avenue to Arrowhead

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,666 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,787 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.30	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-17.54	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-21.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	62.6	62.0	55.6	54.0	62.5	62.7
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.8	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	686
CNEL:	74	159	343	739

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Portola Springs to SR-241 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,347 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,431 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-18.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-22.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	61.7	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	61.7	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.8	68.9	66.0	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	592
CNEL:	64	137	296	637

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Gatepark to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,181 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,407 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.5	69.5	66.6	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	873
CNEL:	94	202	436	939

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: ETC-6 (SR-261) NB Off-Ramp to Gatepark
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,743 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,371 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.93	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.31	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.27	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.2
Medium Trucks:	62.2	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.6	52.6	53.9	62.2	62.3
Vehicle Noise:	70.4	69.5	66.5	61.6	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	401	864
CNEL:	93	200	432	930

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: SR-261 SB Off-Ramp to SR-261 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,901 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,302 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.44	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.40	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	62.1	61.4	55.0	53.5	62.0	62.2
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	70.3	69.3	66.4	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	393	847
CNEL:	91	196	423	912

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Jamboree Road to Bellevue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,621 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,279 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.48	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.44	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.0	61.4	55.0	53.4	61.9	62.1
Heavy Trucks:	62.1	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	70.2	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	181	391	842
CNEL:	91	195	420	906

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Bellevue to ETC-6 (SR-261) SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,354 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,257 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.71	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.53	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.48	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.0	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	70.2	69.2	66.3	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	388	836
CNEL:	90	194	418	900

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Yale Avenue to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,999 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,145 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.49	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-16.75	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-20.70	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	61.8	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.0	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	375	809
CNEL:	87	187	404	870

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Culver Drive to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,874 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,887 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.06	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	82.40	-17.30	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	86.40	-21.26	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.3
Vehicle Noise:	69.4	68.5	65.5	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	742
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Portola Parkway
Road Segment: Silverado to Portola Springs

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,016 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.76	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	82.40	-19.99	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	86.40	-23.95	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.2	59.5	53.1	51.6	60.1	60.3
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.4	67.4	64.5	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	219	471
CNEL:	51	109	235	507

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Pusan
Road Segment: Irvine Boulevard to Cadence

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,449 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	202 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.34	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-23.58	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-27.54	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.0	52.0	50.2	44.1	52.8	53.4
Medium Trucks:	47.9	47.2	40.8	39.3	47.7	48.0
Heavy Trucks:	51.1	50.5	41.4	42.7	51.1	51.2
Vehicle Noise:	55.9	55.1	51.2	47.2	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	42
CNEL:	4	10	21	45

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Quail Hill Parkway
Road Segment: Shady Canyon Drive to Passage
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,541 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,282 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.3	62.5	56.5	65.1	65.7
Medium Trucks:	59.1	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	59.9	59.4	50.3	51.6	59.9	60.0
Vehicle Noise:	67.2	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	393
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Quail Hill Parkway
Road Segment: East Knollcrest to Laguna Canyon Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,900 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	817 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	291
CNEL:	31	67	145	312

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Quassar Drive (Spectrum)
Job Number: 15937
Road Segment: Irvine Center Drive to Spectrum Center Drive (Fortune)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,994 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	164 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	16 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.306
Medium Trucks:	39.205
Heavy Trucks:	39.307

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-7.24	1.46	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-24.48	1.48	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	77.97	-28.43	1.46	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.8	50.7	48.9	42.9	51.5	52.1
Medium Trucks:	46.6	45.9	39.6	38.0	46.5	46.7
Heavy Trucks:	49.8	49.2	40.2	41.4	49.8	49.9
Vehicle Noise:	54.6	53.8	49.9	46.0	54.5	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	8	18	39

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: MacArthur Boulevard to McGaw Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,131 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,723 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.30	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.94	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.5	66.8	60.7	69.3	70.0
Medium Trucks:	63.2	62.5	56.1	54.6	63.1	63.3
Heavy Trucks:	63.6	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.3	70.4	67.3	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	214	462	995
CNEL:	107	230	496	1,069

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: I-405 Over Crossing to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,478 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,854 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	61.8	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.2	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.9	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	278	600
CNEL:	64	139	299	644

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: Alton Parkway to Deere Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,238 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,660 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.84	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.7	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.1	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	69.8	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	171	369	795
CNEL:	85	184	397	854

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: McGaw Avenue to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,517 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,600 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.74	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.50	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.6	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	69.7	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	783
CNEL:	84	181	391	842

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: Deere Avenue to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,497 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,516 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.60	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.64	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.60	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	61.5	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	61.9	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	69.6	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	766
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: Skypark East to MacArthur Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,999 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,815 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.18	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.06	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.01	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.0	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	71.1	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	149	322	693
CNEL:	74	160	345	744

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Red Hill Avenue
Road Segment: Main Street to Skypark East

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,933 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,562 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.47	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-17.71	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-21.67	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.4	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.8	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.5	69.6	66.5	61.7	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	313	673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Research Drive
Road Segment: Hubble to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,175 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,077 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.22	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.02	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.97	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.0	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	69.3	68.4	65.2	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	543
CNEL:	58	125	270	582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Research Drive
Road Segment: Scientific to Lake Forest Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,919 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,396 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.50	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.74	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.70	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	193	416
CNEL:	45	96	207	447

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Research Drive
Road Segment: Bake Parkway to Muller

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,241 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,092 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.57	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.2	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Research Drive
Road Segment: Irvine Center Drive to Bunsen

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,299 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	850 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.66	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.90	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.85	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	139	299
CNEL:	32	69	149	321

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Irvine Boulevard to Trabuco Road (Great Park Boulevard)

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,983 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,236 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.03	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.27	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.22	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	58.9	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.0	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	412

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Ridge Valley (O Street)
Road Segment: Portola Parkway to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,342 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,018 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.87	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.11	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.07	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.1	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.0
Vehicle Noise:	66.2	65.3	62.1	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	157	337
CNEL:	36	78	168	362

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Ridge Valley (O Street)
Job Number: 15937
Road Segment: Trabuco Road (Great Park Boulevard) to Marine Way

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,130 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	918 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.56	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.52	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Ridge Valley (O Street)
Road Segment: Ranchland to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	935 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	77 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-13.08	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-30.32	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-34.27	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.0	55.0	53.2	47.1	55.8	56.4
Medium Trucks:	49.8	49.1	42.7	41.2	49.7	49.9
Heavy Trucks:	50.6	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	57.9	56.9	53.8	49.1	57.7	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	60

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Ridgeline Drive
Road Segment: Concordia East to University Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,070 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,326 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.37	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-16.87	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-20.83	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.5	59.8	53.4	51.9	60.4	60.6
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	68.5	67.6	64.2	59.8	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	143	308
CNEL:	33	71	153	329

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Ridgeline Drive
Road Segment: Turtle Rock Drive to San Simeon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,923 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,231 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.04	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-17.19	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	81.57	-21.15	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	60.2	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	68.1	67.3	63.8	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	136	293
CNEL:	31	67	145	313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Rockfield Avenue
Road Segment: Whatney to McLaren

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,541 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,365 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.7	65.4	66.0
Medium Trucks:	59.4	58.7	52.3	50.8	59.3	59.5
Heavy Trucks:	60.2	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	67.4	66.5	63.4	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	190	410
CNEL:	44	95	204	440

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Rockfield Avenue
Road Segment: Bake Parkway to Whatney

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,372 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	608 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.0	59.3	53.2	61.8	62.4
Medium Trucks:	55.9	55.2	48.8	47.3	55.7	56.0
Heavy Trucks:	56.7	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	63.9	63.0	59.9	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	111	239
CNEL:	26	55	119	257

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Rockfield Avenue
Road Segment: Thomas to Bake Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,692 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	59.9	58.2	52.1	60.7	61.3
Medium Trucks:	54.7	54.1	47.7	46.2	54.6	54.9
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.8	61.9	58.8	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	93	201
CNEL:	22	47	100	216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Roosevelt
Road Segment: Jeffrey Road to Vision

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,206 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,420 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.08	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.16	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.11	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.3	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.6	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	66.4	65.5	62.2	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	161	347
CNEL:	37	80	173	372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Roosevelt
Road Segment: Yale Avenue to Van Buren
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,058 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	747 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.70	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	77.72	-19.94	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	82.99	-23.90	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	59.9	59.3	52.9	51.3	59.8	60.0
Heavy Trucks:	61.2	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	67.9	67.0	63.8	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	99	213
CNEL:	23	49	106	228

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Roosevelt
Road Segment: Vision to Bay Tree
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,387 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,352 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.13	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.37	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.32	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.1	61.3	55.3	63.9	64.5
Medium Trucks:	58.1	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	59.4	58.8	49.8	51.1	59.4	59.5
Vehicle Noise:	66.1	65.2	62.0	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	336
CNEL:	36	78	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Roosevelt
Road Segment: Nimitz to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,608 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,205 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.63	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-17.87	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.82	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.6	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.3	49.3	50.6	58.9	59.0
Vehicle Noise:	65.6	64.7	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	311
CNEL:	33	72	155	333

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Roosevelt
Road Segment: Tulip (Road C) to Sand Canyon Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,053 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,159 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-18.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-21.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.4	56.8	50.4	48.9	57.3	57.6
Heavy Trucks:	58.8	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	65.5	64.6	61.3	56.8	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	32	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Royal Oak
Road Segment: Alton Parkway to Eaglecreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,830 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	398 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.547
Medium Trucks:	29.411
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.86	3.32	-1.20	*-4.81*	0.000	0.000
Medium Trucks:	75.75	-22.09	3.35	-1.20	*-5.14*	0.000	0.000
Heavy Trucks:	81.57	-26.05	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.8	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	63.8	62.9	59.5	55.1	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Oak Canyon Drive to Burt Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,113 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,217 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.84	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.40	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.35	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.7	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.1	63.5	54.5	55.8	64.1	64.2
Vehicle Noise:	71.8	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	502	1,081
CNEL:	116	250	539	1,162

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Irvine Center Drive to Oak Canyon Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,013 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,126 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.75	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.49	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.45	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	63.6	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	64.0	63.4	54.4	55.7	64.0	64.1
Vehicle Noise:	71.7	70.8	67.8	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	495	1,066
CNEL:	114	247	531	1,145

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-405 NB Off-Ramp to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,922 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,789 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.38	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.86	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.82	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.2	65.5	59.2	57.6	66.1	66.3
Heavy Trucks:	66.6	66.0	57.0	58.2	66.6	66.7
Vehicle Noise:	74.3	73.4	70.4	65.6	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	525	1,131
CNEL:	122	262	564	1,216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Burt Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,622 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,424 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.05	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.19	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-17.14	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.3	63.7	57.3	55.8	64.2	64.4
Heavy Trucks:	64.7	64.2	55.1	56.4	64.7	64.9
Vehicle Noise:	72.5	71.5	68.5	63.7	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	526	1,132
CNEL:	122	262	565	1,217

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Marine to I-5 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,433 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	5,151 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.71	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-12.53	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-16.48	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.8	71.7	70.0	63.9	72.5	73.1
Medium Trucks:	66.4	65.7	59.3	57.8	66.3	66.5
Heavy Trucks:	66.8	66.2	57.2	58.4	66.8	66.9
Vehicle Noise:	74.5	73.6	70.5	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	194	417	898	1,935
CNEL:	208	448	965	2,079

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Trabuco Road to Towngate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,024 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,467 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.99	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.25	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.20	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.9	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.3	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	71.0	70.1	67.0	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	204	440	949
CNEL:	102	220	473	1,020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Barranca Parkway to Waterworks

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,582 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,183 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.62	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.62	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.57	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	62.5	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.6	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	193	416	896
CNEL:	96	207	447	963

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-5 SB Off-Ramp to Marine

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,961 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,287 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.91	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.33	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.28	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.9	69.2	63.1	71.7	72.3
Medium Trucks:	65.6	64.9	58.5	57.0	65.5	65.7
Heavy Trucks:	66.0	65.4	56.4	57.6	66.0	66.1
Vehicle Noise:	73.7	72.8	69.7	65.0	73.5	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	171	369	795	1,712
CNEL:	184	396	854	1,840

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Hospital to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,289 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,994 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.35	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.88	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.84	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	62.6	62.1	53.0	54.3	62.6	62.7
Vehicle Noise:	70.4	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	399	860
CNEL:	92	199	429	925

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Nightmist to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,581 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,843 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.44	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.80	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.76	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.6	71.3	71.9
Medium Trucks:	65.1	64.4	58.1	56.5	65.0	65.2
Heavy Trucks:	65.5	64.9	55.9	57.1	65.5	65.6
Vehicle Noise:	73.2	72.3	69.3	64.5	73.0	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	159	343	739	1,592
CNEL:	171	369	794	1,710

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-405 SB Off-Ramp to I-405 NB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,889 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,961 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.31	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.93	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.89	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.2
Heavy Trucks:	65.5	65.0	55.9	57.2	65.5	65.7
Vehicle Noise:	73.3	72.3	69.3	64.5	73.1	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	446	960
CNEL:	103	222	479	1,031

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: I-5 NB Off-Ramp to Nightmist

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,225	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	4,061	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	165	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.68	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-13.56	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-17.52	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.3	64.7	58.3	56.8	65.2	65.5
Heavy Trucks:	65.8	65.2	56.1	57.4	65.7	65.9
Vehicle Noise:	73.5	72.5	69.5	64.7	73.3	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	165	356	767	1,652
CNEL:	177	382	824	1,775

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Towngate to Irvine Boulevard

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,746 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,032 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.41	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.83	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.79	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.3	61.6	55.2	53.7	62.2	62.4
Heavy Trucks:	62.7	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.4	69.5	66.4	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	932

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Waterworks to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,598 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,772 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.02	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.22	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.18	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.3	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	70.0	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	817
CNEL:	88	189	408	878

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Irvine Boulevard to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,306 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,923 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.0	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.4	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	614
CNEL:	66	142	306	660

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Roosevelt to Trabuco Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,585 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,266 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	165 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.593
Medium Trucks:	56.522
Heavy Trucks:	56.593

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.73	-0.91	-1.20	*-4.87*	0.000	0.000
Medium Trucks:	81.00	-14.51	-0.90	-1.20	*-4.97*	0.000	0.000
Heavy Trucks:	85.38	-18.46	-0.91	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	68.0	61.9	70.6	71.2
Medium Trucks:	64.4	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	64.8	64.2	55.2	56.4	64.8	64.9
Vehicle Noise:	72.5	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	143	308	663	1,428
CNEL:	153	331	712	1,535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon Avenue
Road Segment: Alton Parkway to Hospital

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,129 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,733 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	80.0 feet
Centerline Dist. to Observer:	80.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.914
Medium Trucks:	69.857
Heavy Trucks:	69.914

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.96	-2.29	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.28	-2.28	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.24	-2.29	-1.20	*-5.23*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.2	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.7	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	70.4	69.5	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	381	821
CNEL:	88	190	410	882

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sand Canyon/Shady Canyon
Road Segment: Quail Hill Parkway to I-405 SB Ramps
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,970	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,978	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	74	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	60.0	feet
Centerline Dist. to Observer:	60.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.55	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-16.69	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-20.64	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.7	67.0	60.9	69.5	70.2
Medium Trucks:	63.4	62.7	56.3	54.8	63.3	63.5
Heavy Trucks:	63.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	71.5	70.6	67.5	62.8	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	340	734
CNEL:	79	170	366	788

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Scientific Way
Road Segment: Irvine Center Drive to Wald

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,626 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	134 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-9.58	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	75.75	-26.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	81.57	-30.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	52.5	51.4	49.6	43.6	52.2	52.8
Medium Trucks:	46.7	46.0	39.7	38.1	46.6	46.8
Heavy Trucks:	48.5	48.0	38.9	40.2	48.5	48.7
Vehicle Noise:	54.7	53.8	50.4	46.0	54.5	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	27	58
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Shady Canyon Drive
Road Segment: Culver Drive/Bonita Canyon Drive to Cloverfield

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,242 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	762 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.59	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	81.00	-20.82	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	85.38	-24.78	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.8	60.2	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.9	68.0	65.0	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	72	154	333

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Shady Canyon Drive
Road Segment: Bommer Canyon Road to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,888 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	651 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.27	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-21.51	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-25.47	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.2	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	67.3	66.4	63.4	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	150	322
CNEL:	35	75	161	346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Skyhawk
Road Segment: Great Park Boulevard to Marine Way
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,600 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	874 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-17.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-21.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.5	55.4	53.7	47.6	56.2	56.9
Medium Trucks:	51.3	50.7	44.3	42.8	51.2	51.5
Heavy Trucks:	54.6	54.0	44.9	46.2	54.5	54.7
Vehicle Noise:	59.4	58.5	54.6	50.7	59.2	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	120
CNEL:	13	27	59	127

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Southwood
Road Segment: Yale Avenue to Colt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,052 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	252 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-6.85	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.09	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.04	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.1	57.0	55.3	49.2	57.8	58.4
Medium Trucks:	52.3	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.2	53.6	44.5	45.8	54.1	54.3
Vehicle Noise:	60.3	59.4	56.0	51.6	60.1	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	41	88

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Southwood
Road Segment: Challenger to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,844 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	235 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-7.16	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-24.39	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-28.35	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.8	56.7	55.0	48.9	57.5	58.1
Medium Trucks:	52.0	51.3	45.0	43.4	51.9	52.1
Heavy Trucks:	53.9	53.3	44.2	45.5	53.8	54.0
Vehicle Noise:	60.0	59.1	55.7	51.3	59.8	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	8	18	39	84

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Spectrum Center Drive (Fortune
Road Segment: Pacifica to Quassar Drive (Spectrum)

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,887 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	981 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	-0.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-21.47	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.2	56.4	50.3	59.0	59.6
Medium Trucks:	53.7	53.1	46.7	45.1	53.6	53.8
Heavy Trucks:	56.2	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	61.7	60.9	57.2	53.0	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	171
CNEL:	18	39	85	182

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Spectrum Center Drive (Fortune
Road Segment: Quassar Drive (Spectrum) to Gatewayb

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,271 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,095 vehicles
Vehicle Speed:	30 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	61.75	0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	73.48	-17.03	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	79.92	-20.99	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.6	56.9	50.8	59.4	60.1
Medium Trucks:	54.2	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.7	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	62.2	61.4	57.7	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	184
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Sunnyhill
Road Segment: Shady Canyon Drive to Turtle Rock Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,698 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	553 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-1.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	70.80	-19.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	77.97	-23.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.5	53.5	51.7	45.6	54.3	54.9
Medium Trucks:	49.3	48.7	42.3	40.8	49.2	49.5
Heavy Trucks:	52.6	52.0	42.9	44.2	52.5	52.7
Vehicle Noise:	57.4	56.6	52.7	48.7	57.2	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	88
CNEL:	9	20	43	94

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Technology Drive
Road Segment: Barranca Parkway to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,103 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,648 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.28	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.96	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.92	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.3	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	63.1	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.3	69.4	66.3	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	638
CNEL:	68	147	318	685

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Technology Drive
Road Segment: Old Laguna Canyon Road to I-5/SR-133 Undercrossing
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,614 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,948 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.95	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.29	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.25	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.9	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.8	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	69.0	68.1	64.9	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	241	520
CNEL:	56	120	259	558

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Technology Drive
Road Segment: I-5/SR-133 to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,678 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,871 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.77	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.7	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	68.8	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	235	506
CNEL:	54	117	252	543

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Technology Drive
Road Segment: Ada to Alton Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,697 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	470 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.23	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-22.47	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-26.42	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.0	59.9	58.2	52.1	60.7	61.3
Medium Trucks:	54.7	54.1	47.7	46.2	54.6	54.9
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.8	61.9	58.8	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	94	202
CNEL:	22	47	100	216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Toledo Way
Road Segment: Bake Parkway to City Limits

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,035 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	663 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-21.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-25.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	57.3	56.7	50.3	48.8	57.2	57.4
Heavy Trucks:	57.7	57.2	48.1	49.4	57.7	57.9
Vehicle Noise:	65.5	64.5	61.5	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	151	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Toledo Way
Road Segment: Goodyear to Bake Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,383 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	527 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.39	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.3	55.7	49.3	47.8	56.2	56.4
Heavy Trucks:	56.7	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.5	63.5	60.5	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	259
CNEL:	28	60	129	278

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Toledo Way
Road Segment: Alton Parkway to Parker
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,879 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	485 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.3	59.6	53.5	62.1	62.8
Medium Trucks:	56.0	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	56.4	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	64.1	63.2	60.1	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	114	245
CNEL:	26	57	122	263

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: Keystone to Sand Canyon Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,594 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,204 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.14	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.38	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.34	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	405

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: Jeffrey Road to Keystone

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,846 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,142 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.37	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.61	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.57	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.6	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.4	58.9	49.8	51.1	59.4	59.5
Vehicle Noise:	66.7	65.8	62.6	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	364
CNEL:	39	84	181	391

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: Culver Drive to I-5 NB Off-Ramp

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,275	vehicles
Peak Hour Percentage:	8.25%	
Peak Hour Volume:	1,095	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	62.5	feet
Centerline Dist. to Observer:	62.5	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.56	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.79	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.5	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	354
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: Monroe to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,181 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,087 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.2	58.6	49.6	50.9	59.2	59.3
Vehicle Noise:	66.5	65.6	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	353
CNEL:	38	81	176	378

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: I-5 NB Off-Ramp to Monroe

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,860 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,061 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.69	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.93	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.89	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.3	57.6	51.2	49.7	58.2	58.4
Heavy Trucks:	59.1	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.4	65.4	62.3	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	161	347
CNEL:	37	80	173	372

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: Yale Avenue to Remington

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,949 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	986 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.01	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.25	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.21	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.0	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	330
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Trabuco Road
Road Segment: Remington to Jeffrey Road
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,295 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	932 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.50	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.45	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	57.7	57.0	50.7	49.1	57.6	57.8
Heavy Trucks:	58.6	58.0	48.9	50.2	58.5	58.7
Vehicle Noise:	65.8	64.9	61.7	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	148	318
CNEL:	34	74	158	341

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Ridge Drive
Road Segment: Federation Way to Bonita Canyon

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,977 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,731 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.43	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.81	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	239	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Rock Drive
Road Segment: Ridgeline to Willowleaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,738 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	721 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.37	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.61	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.57	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.5	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.6	66.7	63.5	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	250
CNEL:	27	58	125	269

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Rock Drive
Road Segment: Silkwood to Sunnyhill

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,638 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	713 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.42	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-20.66	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-24.62	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.4	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.6	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	115	248
CNEL:	27	57	124	266

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Rock Drive
Road Segment: Canyon Park to Ridgeline
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,159 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	591 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.43	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.6	58.0	51.6	50.0	58.5	58.7
Heavy Trucks:	59.5	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	66.7	65.8	62.6	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	24	51	109	235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Rock Drive
Road Segment: Sunnyhill to Southernwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,587 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	296 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.24	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-24.48	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-28.43	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	55.6	55.0	48.6	47.0	55.5	55.7
Heavy Trucks:	56.5	55.9	46.8	48.1	56.4	56.6
Vehicle Noise:	63.7	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	138
CNEL:	15	32	69	148

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Rock Drive
Road Segment: Campus Drive to Hillgate

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,106 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	586 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.27	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.51	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.46	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.9	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	55.7	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	56.5	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	63.8	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	234
CNEL:	25	54	116	251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Turtle Rock Drive
Road Segment: Paseo Segovia to Campus Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,064 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	335 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.70	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-23.94	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-27.89	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.1	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.0
Vehicle Noise:	65.2	64.3	61.1	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	185
CNEL:	20	43	92	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Golden Glow to Yale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,678 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,521 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.18	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.14	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	70.0	68.2	62.1	70.8	71.4
Medium Trucks:	64.6	63.9	57.5	56.0	64.5	64.7
Heavy Trucks:	65.0	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	72.7	71.8	68.7	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	427	919
CNEL:	99	213	458	988

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Ridgeline to Michelson Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,367 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,320 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.95	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-13.29	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	85.38	-17.25	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.6	67.8	61.7	70.4	71.0
Medium Trucks:	64.2	63.5	57.1	55.6	64.1	64.3
Heavy Trucks:	64.6	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.3	71.4	68.4	63.6	72.1	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	482	1,037
CNEL:	111	240	517	1,115

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Culver Drive to Golden Glow
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,441 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,419 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.93	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.31	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.8	68.1	62.0	70.6	71.2
Medium Trucks:	64.5	63.8	57.4	55.9	64.3	64.6
Heavy Trucks:	64.9	64.3	55.2	56.5	64.9	65.0
Vehicle Noise:	72.6	71.7	68.6	63.8	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	901
CNEL:	97	209	450	968

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Yale Avenue to Ridgeline

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,983 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,051 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-18.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.4	69.3	67.6	61.5	70.1	70.7
Medium Trucks:	64.0	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.4	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	72.1	71.2	68.1	63.3	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	388	836
CNEL:	90	193	417	898

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Michelson Drive to I-405 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,667 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	4,840 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	4.44	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-12.80	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-16.75	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.7	67.9	61.9	70.5	71.1
Medium Trucks:	64.3	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	64.7	64.1	55.1	56.4	64.7	64.8
Vehicle Noise:	72.4	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	255	550	1,185
CNEL:	127	274	591	1,273

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Mesa to Campus Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,486 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,753 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.33	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.90	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.86	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.5	69.8	63.7	72.3	72.9
Medium Trucks:	66.2	65.5	59.1	57.6	66.0	66.3
Heavy Trucks:	66.6	66.0	57.0	58.2	66.6	66.7
Vehicle Noise:	74.3	73.4	70.3	65.5	74.1	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	522	1,124
CNEL:	121	260	561	1,208

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: MacArthur Blvd/SR-73 NB Off-Ramp to California Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,290 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,819 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.41	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-13.83	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.78	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	66.2	65.6	59.2	57.7	66.1	66.4
Heavy Trucks:	66.6	66.1	57.0	58.3	66.6	66.8
Vehicle Noise:	74.4	73.4	70.4	65.6	74.2	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	114	245	528	1,138
CNEL:	122	263	567	1,222

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: California Avenue to Mesa

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,330 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,657 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	74 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.329
Medium Trucks:	47.244
Heavy Trucks:	47.329

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.22	0.25	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-14.02	0.27	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-17.97	0.25	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.4	69.7	63.6	72.2	72.8
Medium Trucks:	66.1	65.4	59.0	57.5	65.9	66.2
Heavy Trucks:	66.5	65.9	56.8	58.1	66.4	66.6
Vehicle Noise:	74.2	73.3	70.2	65.4	74.0	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	238	513	1,105
CNEL:	119	256	551	1,187

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Campus Drive to Harvard Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,310 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,078 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.47	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-14.76	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-18.72	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	62.8	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	70.5	69.6	66.5	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	877
CNEL:	94	203	437	942

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 SB Off-Ramps to SR-73(MacArthur Blvd) SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,200 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,667 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.19	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-17.43	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-21.38	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.3	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.7	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.4	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	603
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: University Drive
Job Number: 15937
Road Segment: SR-73 NB Off-Ramps (MacArthur Blvd) to SR-73 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,047 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,809 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.08	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.16	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.12	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.9	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.4	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	70.1	69.2	66.1	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	178	383	825
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: San Joaquin to Culver Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,020 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,477 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.53	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.71	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.66	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	61.4	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	352	758
CNEL:	81	176	378	815

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: University Drive
Road Segment: Harvard Avenue to San Joaquin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,892 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,466 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.51	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	81.00	-15.73	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	85.38	-19.68	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	61.4	60.7	54.3	52.8	61.3	61.5
Heavy Trucks:	61.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.5	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	351	756
CNEL:	81	175	377	812

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Valley Oak Drive
Road Segment: Hawkcreek to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,433 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,108 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.96	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-19.20	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-23.16	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	59.6	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.0	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	67.7	66.8	63.7	58.9	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	92	197	425
CNEL:	46	98	212	457

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Valley Oak Drive
Road Segment: Irvine Center Drive to Oak Canyon Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,018 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	909 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.82	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	81.00	-20.06	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	85.38	-24.02	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	60.7	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.1	60.5	51.4	52.7	61.1	61.2
Vehicle Noise:	68.8	67.9	64.8	60.0	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	87	187	402
CNEL:	43	93	201	432

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Valley Oak Drive
Road Segment: Barranca Parkway to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,317 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	851 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-20.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-24.30	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.4	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	58.8	58.2	49.2	50.5	58.8	58.9
Vehicle Noise:	66.5	65.6	62.6	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	357
CNEL:	38	83	178	383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Valley Oak Drive
Road Segment: Alton Parkway to Hawkcreek

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,501 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	536 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	81.00	-22.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	85.38	-26.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.4	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	56.8	56.2	47.2	48.5	56.8	56.9
Vehicle Noise:	64.5	63.6	60.6	55.8	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	122	262
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Marriott to Morse Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,606 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,855 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.63	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.59	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.6	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.4	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	70.7	69.7	66.6	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	311	671
CNEL:	72	155	334	720

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Michelson Drive to Quartz

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,326 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,749 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.75	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.4	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.3	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	70.5	69.6	66.4	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	141	304	654
CNEL:	70	151	326	702

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: McGaw Avenue to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,069 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,728 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.41	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.83	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.4	61.7	55.3	53.8	62.3	62.5
Heavy Trucks:	63.2	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.5	69.6	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	651
CNEL:	70	150	324	698

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Alton Parkway to Barranca Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,216 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	3,400 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	75.0 feet
Centerline Dist. to Observer:	75.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	70.413
Medium Trucks:	70.356
Heavy Trucks:	70.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.36	-2.33	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-13.87	-2.33	-1.20	*-4.99*	0.000	0.000
Heavy Trucks:	84.25	-17.83	-2.33	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	62.0	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	62.9	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.1	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	742
CNEL:	80	172	370	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Main Street to Anchor

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,464 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,678 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.33	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.3	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	63.1	62.6	53.5	54.8	63.1	63.2
Vehicle Noise:	70.4	69.5	66.3	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	298	643
CNEL:	69	149	320	690

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Anchor to McGaw Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,313 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,583 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.0	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.2	69.3	66.2	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	628
CNEL:	67	145	313	673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Morse to Main Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,530 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,436 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.92	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.32	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.28	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	61.9	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.7	62.1	53.1	54.4	62.7	62.8
Vehicle Noise:	70.0	69.1	65.9	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Martin to Dupont Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,404 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,096 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.26	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.98	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.93	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.2	60.6	54.2	52.7	61.1	61.3
Heavy Trucks:	62.1	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.3	68.4	65.3	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	253	546
CNEL:	59	126	272	586

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Campus Drive to Martin

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,957 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,059 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.05	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.01	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	250	540
CNEL:	58	125	269	579

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Von Karman Avenue
Road Segment: Dupont Drive to Michelson Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,911 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,055 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.18	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.06	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.2	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.2	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	250	539
CNEL:	58	125	268	578

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Jeffrey Road to I-5 SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,208 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,822 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.55	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-14.68	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-18.64	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.5	61.9	55.5	53.9	62.4	62.6
Heavy Trucks:	63.4	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	70.6	69.7	66.5	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	143	309	666
CNEL:	71	154	332	714

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Myford Road to Jamboree Road SB Off-Ramp
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,735 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,876 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.78	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.46	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.41	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.8	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.6	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	68.8	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	235	507
CNEL:	54	117	252	544

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: The Mall Street to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,014 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,734 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.44	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.80	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.76	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.3	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.5	67.6	64.4	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	111	240	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Harvard Avenue to The Mall Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,921 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,726 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-16.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-20.77	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.7	66.4	67.0
Medium Trucks:	60.4	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.2	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	68.5	67.6	64.4	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	223	480
CNEL:	51	111	239	515

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Franciscan Street to Ravenwood Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,748 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,629 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.03	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	214	462
CNEL:	50	107	230	495

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Ravenwood Street to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,073 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,574 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.02	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.22	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.18	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.8	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	68.1	67.2	64.0	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	451
CNEL:	48	104	225	484

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Culver Drive to Franciscan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,198 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,584 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.05	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.19	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.15	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.0	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.1	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	210	453
CNEL:	49	105	226	486

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Peters Canyon Road to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,674 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,118 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.31	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-15.93	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-19.89	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.8	63.0	57.0	65.6	66.2
Medium Trucks:	59.6	59.0	52.6	51.0	59.5	59.7
Heavy Trucks:	60.5	59.9	50.8	52.1	60.5	60.6
Vehicle Noise:	67.7	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	124	266	573
CNEL:	62	133	286	615

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Project Name: Irvine GP
Road Name: Walnut Avenue
Job Number: 15937
Road Segment: Jamboree Road NB Off-Ramp to Peters Canyon Road

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,721 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,039 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	74.458
Medium Trucks:	74.404
Heavy Trucks:	74.458

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.14	-2.70	-1.20	*-4.86*	0.000	0.000
Medium Trucks:	79.45	-16.09	-2.69	-1.20	*-4.98*	0.000	0.000
Heavy Trucks:	84.25	-20.05	-2.70	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.6	62.9	56.8	65.4	66.1
Medium Trucks:	59.5	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	67.5	66.6	63.5	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	260	559
CNEL:	60	129	278	600

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Yale Avenue to Kazan Street

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,757 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,217 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.10	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.33	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.29	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.9	58.2	51.8	50.3	58.8	59.0
Heavy Trucks:	59.7	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.0	66.0	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	380
CNEL:	41	88	189	408

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Walnut Avenue
Road Segment: Wisteria to Jeffrey Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,563 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,201 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.15	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.39	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.8	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	66.9	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Warner Avenue
Road Segment: Jamboree Road SB Off-ramp to Construction North
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,741 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	2,371 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.80	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-15.44	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-19.40	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.9	65.2	59.1	67.8	68.4
Medium Trucks:	61.8	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.6	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.8	68.9	65.8	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	593
CNEL:	64	137	295	636

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Warner Avenue
Road Segment: Construction North to Harvard Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,878 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,640 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.20	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-17.04	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-21.00	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.3	63.6	57.5	66.1	66.8
Medium Trucks:	60.2	59.5	53.1	51.6	60.1	60.3
Heavy Trucks:	61.0	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	68.2	67.3	64.2	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	464
CNEL:	50	107	231	497

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Warner Avenue
Road Segment: Harvard Avenue to Paseo Westpark

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,949 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,151 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.34	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.58	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.54	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.7
Heavy Trucks:	59.5	58.9	49.8	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	366
CNEL:	39	85	182	393

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Warner Avenue
Road Segment: Santa Ynez to Culver Drive

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,142 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	919 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.32	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.55	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.51	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.7	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.7	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	68	146	315
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Warner Avenue
Road Segment: Culver Drive to West Yale Loop

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,428 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	860 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.80	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.8	54.7	63.3	64.0
Medium Trucks:	57.4	56.7	50.3	48.8	57.3	57.5
Heavy Trucks:	58.2	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	65.4	64.5	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	150	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Alton Parkway to Blue Lake North

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,462 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	781 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.52	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.75	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.71	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.7	55.1	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	56.5	47.4	48.7	57.0	57.1
Vehicle Noise:	63.8	62.9	59.6	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Eagle Run to Main Street
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,126 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	753 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.67	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.91	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.87	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.5	58.8	52.7	61.3	61.9
Medium Trucks:	55.6	54.9	48.5	47.0	55.4	55.7
Heavy Trucks:	56.9	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	63.6	62.7	59.4	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	227
CNEL:	24	52	113	244

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Thunder Run to Yale Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,279 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	766 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.60	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-19.84	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-23.79	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.7	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	55.6	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	57.0	56.4	47.3	48.6	56.9	57.1
Vehicle Noise:	63.7	62.8	59.5	55.0	63.5	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	107	230
CNEL:	25	53	114	246

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Main Street to Timber Run

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,177 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	592 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.72	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.95	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.91	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	54.5	53.9	47.5	45.9	54.4	54.6
Heavy Trucks:	55.8	55.3	46.2	47.5	55.8	55.9
Vehicle Noise:	62.6	61.7	58.4	53.8	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	194
CNEL:	21	45	96	207

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Yale Avenue to Shorebird

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,554 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	623 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.49	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-20.73	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-24.69	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.8	59.7	57.9	51.9	60.5	61.1
Medium Trucks:	54.7	54.1	47.7	46.2	54.6	54.9
Heavy Trucks:	56.1	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	62.8	61.9	58.6	54.1	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	93	201
CNEL:	21	46	100	215

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Warner Avenue to Stonecreek South

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,766 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	558 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.97	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.21	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.17	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.3	59.2	57.5	51.4	60.0	60.6
Medium Trucks:	54.3	53.6	47.2	45.7	54.1	54.4
Heavy Trucks:	55.6	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	62.3	61.4	58.1	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	186
CNEL:	20	43	93	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Barranca Parkway to Alton Parkway
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,550 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.11	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.35	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.31	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.1	53.5	47.1	45.5	54.0	54.2
Heavy Trucks:	55.4	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.2	61.3	58.0	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	182
CNEL:	20	42	91	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Stonecreek North to Warner Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,628 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	547 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.2	59.1	57.4	51.3	59.9	60.5
Medium Trucks:	54.2	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.5	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	62.2	61.3	58.0	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	85	184
CNEL:	20	42	91	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: West Yale Loop
Road Segment: Birdsong to Barranca Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,435 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	531 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.19	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	77.72	-21.43	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	82.99	-25.38	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.0	53.4	47.0	45.5	53.9	54.2
Heavy Trucks:	55.4	54.8	45.7	47.0	55.3	55.5
Vehicle Noise:	62.1	61.2	57.9	53.4	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	180
CNEL:	19	42	90	193

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Westwood
Road Segment: Yorktown to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,049 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	499 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.88	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-21.12	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-25.07	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.3	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.1	56.5	47.5	48.8	57.1	57.2
Vehicle Noise:	63.3	62.4	59.0	54.6	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	130
CNEL:	14	30	65	139

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Westwood
Road Segment: Bryan Avenue to Leaf

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,817 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	315 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-5.88	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	75.75	-23.12	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	81.57	-27.07	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.1	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	53.3	52.6	46.3	44.7	53.2	53.4
Heavy Trucks:	55.1	54.5	45.5	46.8	55.1	55.2
Vehicle Noise:	61.3	60.4	57.0	52.6	61.1	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	44	96
CNEL:	10	22	47	102

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Deerfield Avenue to Winvale Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,532 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	869 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.56	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-19.80	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-23.76	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.3	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.5	51.5	52.8	61.1	61.2
Vehicle Noise:	68.4	67.5	64.3	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	283
CNEL:	30	66	141	304

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Hicks Canyon Drive to Meadowood
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,828 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	646 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.85	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-21.09	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	84.25	-25.04	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.0	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	67.1	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Walnut Avenue to Roosevelt

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,775 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,219 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	32.140
Medium Trucks:	32.016
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.09	2.78	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	79.45	-18.33	2.80	-1.20	*-5.08*	0.000	0.000
Heavy Trucks:	84.25	-22.29	2.78	-1.20	*-5.56*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	62.7	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	63.5	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	70.8	69.9	66.7	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	203	438
CNEL:	47	101	218	470

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Roosevelt to Trabuco Road

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,287 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,179 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.24	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.48	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.43	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.8	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Irvine Center Drive to Deerfield Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,713 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,131 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.42	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-18.65	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-22.61	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.6	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	59.4	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.6	65.7	62.6	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	362
CNEL:	39	84	180	388

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: West Yale Loop to Irvine Center Drive
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,162 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	1,003 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.94	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.17	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.13	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.1	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Winvale Avenue to Karen Ann Lane
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,472 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	864 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.6	48.6	49.9	58.2	58.3
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	151	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Karen Ann Lane to Walnut Avenue

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,472 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	864 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.59	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.82	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.78	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.4	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.2	57.6	48.6	49.9	58.2	58.3
Vehicle Noise:	65.5	64.6	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	151	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Trabuco Road to Southwood

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,318 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	851 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.65	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-19.89	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-23.84	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.3	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	65.4	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	139	299
CNEL:	32	69	149	321

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Southwood to Bryan Avenue
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,907 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	817 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.83	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.07	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.02	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.1	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.0	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	65.2	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	291
CNEL:	31	67	145	313

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Northwood to Irvine Boulevard
Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,164 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	756 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.17	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.40	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.36	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	56.8	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	57.6	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	64.9	64.0	60.8	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	128	277
CNEL:	30	64	138	297

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Bryan Avenue to Monticello

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,902 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	734 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.29	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-20.53	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-24.49	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.7	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	57.5	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	64.8	63.9	60.7	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	126	271
CNEL:	29	63	135	291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: Irvine Boulevard to Park Place

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,457 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	615 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	62.5 feet
Centerline Dist. to Observer:	62.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.786
Medium Trucks:	57.717
Heavy Trucks:	57.787

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.06	-1.05	-1.20	*-4.85*	0.000	0.000
Medium Trucks:	79.45	-21.30	-1.04	-1.20	*-5.01*	0.000	0.000
Heavy Trucks:	84.25	-25.26	-1.05	-1.20	*-5.32*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	55.9	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	56.8	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.0	63.1	59.9	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	241
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Avenue
Road Segment: University Drive to Royce

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,979 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	328 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	52 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.814
Medium Trucks:	42.720
Heavy Trucks:	42.814

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.79	0.91	-1.20	*-4.84*	0.000	0.000
Medium Trucks:	79.45	-24.03	0.92	-1.20	*-5.04*	0.000	0.000
Heavy Trucks:	84.25	-27.98	0.91	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.1	54.5	48.1	46.6	55.0	55.3
Heavy Trucks:	56.0	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	63.2	62.3	59.2	54.5	63.0	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	171
CNEL:	18	40	85	184

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative Preferred
Road Name: Yale Court
Road Segment: Arborwood to Portola Parkway

Project Name: Irvine GP
Job Number: 15937

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,441 vehicles
Peak Hour Percentage:	8.25%
Peak Hour Volume:	531 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.5 feet
Centerline Dist. to Observer:	37.5 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	37.138
Medium Trucks:	37.030
Heavy Trucks:	37.139

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-2.14	1.83	-1.20	*-4.83*	0.000	0.000
Medium Trucks:	70.80	-19.38	1.85	-1.20	*-5.09*	0.000	0.000
Heavy Trucks:	77.97	-23.34	1.83	-1.20	*-5.60*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.2	56.2	54.4	48.3	57.0	57.6
Medium Trucks:	52.1	51.4	45.0	43.5	51.9	52.2
Heavy Trucks:	55.3	54.7	45.6	46.9	55.3	55.4
Vehicle Noise:	60.1	59.3	55.4	51.4	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	18	40	85

APPENDIX I

Proposed Conditions Infrastructure Report for Water, Sewer, Storm Drainage, and Water Quality

Irvine General Plan Update

Vehicle Miles Traveled (VMT) Traffic Study

DRAFT Version 1.0

11670 | Prepared by Iteris, Inc.

DOCUMENT VERSION CONTROL

DOCUMENT NAME	SUBMITTAL DATE	VERSION NO.
Draft Irvine General Plan Update VMT Study	02/09/2024	1.0
Draft Irvine General Plan Update VMT Study	03/01/2024	1.1
Draft Irvine General Plan Update VMT Study	03/07/2024	1.2

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APPENDICES

Appendix A - Ventura County VMT Reduction Strategies

1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The City of Irvine (City) is preparing the 2045 Focused General Plan Update (GPU) that will serve as the long-range vision of the City for the next 20 to 25 years. The City as the lead agency has determined that the project will require the preparation of a Program Environmental Impact Report (Program EIR) in compliance with the California Environmental Quality Act (CEQA; California Public Resources Code, Section 21000 et seq.), and Title 14 of the California Code of Regulations (CCR).

In compliance with CEQA, a Vehicle Miles Traveled (VMT) analysis has been completed for this project. This VMT report assesses the impact of the proposed additional residential and non-residential land uses along with a proposed new transportation improvement in the GPU on the transportation system, in accordance with the City's Traffic Study Guidelines. The report provides information concerning the methodology, analysis, findings, and recommendation resulting from the VMT analysis. The VMT analysis evaluates five land use alternatives and one transportation alternative:

1. Existing General Plan
2. Proposed Project (Conservative Alternative)
3. Reduced Project Alternative
4. Cumulative Plus Proposed Project (Conservative Alternative)
5. Cumulative Plus Reduced Project Alternative
6. Proposed Project (Conservative Alternative) Without Ada extension (Transportation Alternative)
7. Reduced Project Alternative Without Ada extension (Transportation Alternative)

1.2 PROJECT DESCRIPTION

Residential Land Uses: Consistent with the 2021-2029 Housing Element, the project would update the General Plan land use element to support the City's Regional Housing Needs Assessment (RHNA) of 23,610 units. To ensure consistency with State housing statutes, including no-net loss and affirmatively furthering fair housing requirements, the 2021-2029 Housing Element identified adequate sites to accommodate 55,395 new residential units in addition to the 2,261 unbuilt units already in the General Plan. The Proposed Project (Conservative Alternative) simply adds these 55,395 new units to the Existing General Plan and assumes all other future development in the Existing General Plan would also take place.

However, the City's Existing General Plan has a significant amount of unbuilt non-residential square footage available throughout the planning areas (PAs) identified in the 2021-2029 Housing Element site inventory that would be available for the potential conversion to residential uses. Given the recent history in the City of converting future approved office and warehouse approvals to residential development, the Proposed Project (Conservative Alternative) represents a maximum development scenario which may not be achievable in practice. A Reduced Project Alternative was therefore developed with the assumption that a portion of future unbuilt non-residential square footage is converted to housing, thereby reducing the total number of dwelling units. Therefore, because of the conversion of non-residential uses to residential uses, the City would add 40,378 new units in addition to the 2,261 unbuilt units in the Existing General Plan for a total of 42,639 units.

N**on-residential land uses:** In addition to the RHNA residential development, the project includes additional non-residential park uses in the Irvine Great Park (Great Park). Buildout of the Great Park Framework Plan non-residential park uses is included in all project alternatives. Only Phase 1 of the Great Park Framework Plan is included in the Existing General Plan. The Existing General Plan represents the No Project Alternative pursuant to CEQA Guidelines Section 15126.6.

Transportation Improvements: A transportation improvement is part of the project and included in all project alternatives except the Existing General Plan. The extension of the street named Ada (Ada Extension) from its current

terminus in the parking lot of the Irvine Station south of the Southern California Railroad Authority (SCRRA) railroad tracks is proposed to extend north under the railroad tracks to meet the future Marine Way extension north of the railroad tracks. The Ada roadway extension between the Irvine Station and Marine Way provides multi-modal connectivity to support the residential uses.

Cumulative Projects: For the Cumulative Plus Proposed Project (Conservative Alternative) and Cumulative Plus Reduced Project Alternative, a portion of each neighboring city's RHNA housing inventory was added to the Irvine Transportation Analysis Model (ITAM) based on the known geographic location of future development. These units have been included because they are located within ITAM Traffic Analysis Zones (TAZs) physically near Irvine city limits in which land use input data could be added. In addition to the RHNA housing inventory from neighboring cities, some additional projects within the City of Irvine have been added to the Cumulative Plus Proposed Project Alternative and Cumulative Plus Reduced Project Alternative because these pending projects are currently in various stages of approval.

1.3 METHODOLOGY

The City's approach to calculating VMT "attributable to the project" is consistent with Section 15064.3 of the CEQA Guidelines. In this approach, ITAM is run with the project land uses, and VMT statistics are calculated using trip tables and travel distance "skims" for a project TAZ to calculate the project VMT rate. The project VMT rate is then compared to the VMT threshold rate based on existing conditions at the time when the updated traffic study guidelines were approved. ITAM also calculates the associated population and employment of a project through its land use to socioeconomic data conversion module. VMT, population and employment for any given project can be calculated. To determine whether a project has a significant VMT impact, the project VMT metric is compared with the adopted threshold for that metric as shown below.

There is no guidance in the City's Traffic Study Guidelines for the treatment of area-wide or Citywide buildout plans. Therefore, metrics and thresholds of significance for citywide land-use plans were developed for the General Plan Update effort based on the VMT per service population. The adopted methodology in the Traffic Study Guidelines identifies thresholds of significance for residential and non-residential projects based on a 15% reduction of existing countywide average VMT per population or employment. Similarly, the threshold of significance applied for the Citywide plan is based on a 15% reduction of existing countywide average VMT per service population of which service population is the sum of the countywide population and employment. This methodology is consistent with methodologies used in other jurisdictions.

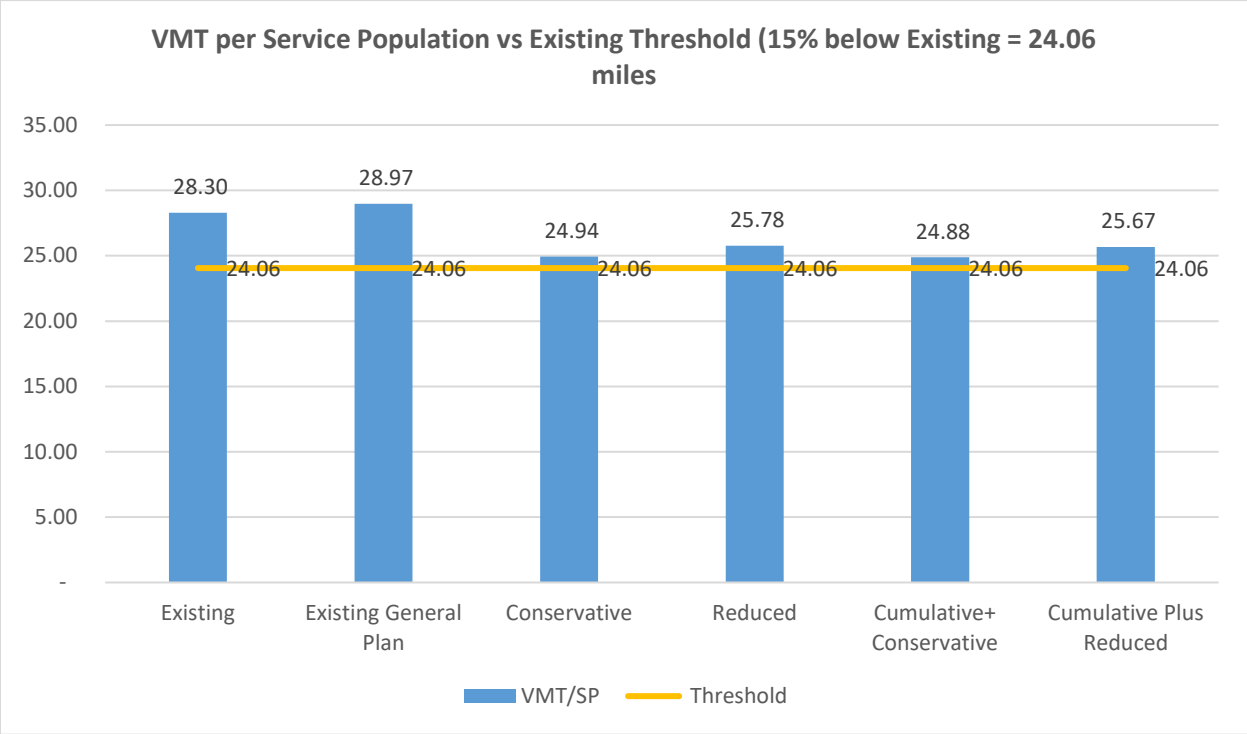
1.4 RESULTS

Table 1-1 and Figure 1-1 shows that all the project alternatives result in significant impact. All alternatives exceed the VMT per service population significance threshold (i.e., 24.06 miles)**.**

Table 1-1 – VMT Analysis Results Summary

Project Description	Total VMT (miles)	Total Population	Total Employees	Service Population	VMT per Service Population	Miles Above Existing threshold	% Above VMT threshold (24.06 miles))	% VMT reduction needed to meet threshold
Existing General Plan	20,437,228	368,261	337,102	705,363	28.97	**4.98**	20.4%	17.0%
Proposed Project (Conservative) Alternative	21,337,558	517,654	337,910	855,564	24.94	**0.88**	3.7%	3.5%
Reduced Project Alternative	21,008,186	477,019	337,910	814,929	25.78	**1.72**	7.2%	6.7%
Cumulative Plus Proposed Project (Conservative) Alternative	21,516,666	526,535	338,391	864,926	24.88	**0.82**	3.4%	3.3%
Cumulative Plus Reduced Project Alternative	21,157,974	485,900	338,391	824,291	25.67	**1.62**	6.7%	6.3%

Figure 1-2 – VMT Analysis Results Summary



- The Existing General Plan would result in a 20.4% increase in VMT per service population compared to the threshold and requires a 17% reduction in VMT/service population to meet the significance threshold.
- Both the Proposed and Reduced Project Alternatives represent a notable reduction in VMT per service population compared to the existing on-the-ground development and the General Plan. The Proposed Project Alternative requires a 3.5 % reduction in VMT to meet the significance threshold and the Reduced Project Alternative requires a 6.7 % reduction to meet the significance threshold.
- The Cumulative conditions result in a marginally lower VMT per service population compared to the Non-Cumulative alternatives. The cumulative conditions require 3.3% reduction under the Proposed Project Alternative and 6.3% under the Reduced Project Alternative.
- The impacts in both Cumulative and Non-Cumulative for both Proposed and Reduced Project Alternatives could potentially be mitigated by using a combination of onsite design and Transportation Demand Management (TDM) measures such as car-pool, van-pool programs, which could result in up to a 7.5 % reduction in VMT impact in areas of the City where a TDM program is existing or may be introduced.
- While there are potential mechanisms to have a programmatic approach to CEQA transportation mitigation based on VMT metrics, it is likely a new, managed mitigation program would need to be enacted by the City which would be subject to several statutory constraints. Most California cities are opting to continue project-level mitigation approaches where the project applicant is directed to develop mitigation with direction from City staff in their role as the CEQA lead agency.
- The extension of Ada under the SCRAA train tracks from the existing terminus at Irvine Station south of the railroad tracks to Marine Way north of the tracks could potentially be screened out from VMT analysis because the extension improves pedestrian and bicycle connectivity by reducing travel distances between the train station and future residential development north of the train tracks. Improved multi-modal access to the train station will also encourage the use of rail trips instead of car trips. Therefore, there is no

significant impact associated with this improvement. This is consistent with expectations when providing a new connection that shortens trip distances.

2 INTRODUCTION

As previously noted, the City is preparing the 2045 Focused GPU that will serve as the long-range vision of the City for the next 20 to 25 years. The City as the lead agency has determined that the project will require the preparation of a Program EIR in compliance with CEQA; California Public Resources Code, Section 21000 et seq., and Title 14 of CCR.

In compliance with CEQA, a VMT analysis has been completed for this project. This VMT report assesses the impact of the proposed additional residential and non-residential land uses associated with the GPU on the transportation system, in accordance with the City's Traffic Study Guidelines. The report provides information concerning the methodology, analysis, findings, and recommendation resulting from the VMT analysis. The VMT analysis evaluates five land use alternatives and one transportation alternative:

1. Existing General Plan/No Project Alternative
2. Proposed Project (Conservative Alternative)
3. Reduced Project Alternative
4. Cumulative Plus Proposed Project (Conservative Alternative)
5. Cumulative Plus Reduced Project Alternative
6. Proposed Project Alternative Without Ada Extension (Transportation Alternative)
7. Reduced Project Alternative Without Ada Extension (Transportation Alternative)

2.1 PROJECT DESCRIPTION

Residential Development: Consistent with the 2021-2029 Housing Element, the project would update the General Plan land use element to support the City's Regional Housing Needs Assessment (RHNA) of 23,610 units. To ensure consistency with State housing statutes, including no-net loss and affirmatively furthering fair housing requirements, the 2021-2029 Housing Element identified adequate sites to accommodate 57,656 new residential uses (55,395 new residential units plus 2,261 unbuilt units already in the General Plan).The Proposed Project (Conservative Alternative) simply adds these 55,395 new units to the Existing General Plan and assumes all other future development in the Existing General Plan would also take place.

However, the City's Existing General Plan has a significant amount of unbuilt non-residential square footage available throughout the planning areas (PAs) identified in the 2021-2029 Housing Element site inventory that would be available for the potential conversion to residential uses. Given the recent history in the City of converting future approved office and warehouse approvals to residential development, the Proposed Project (Conservative Alternative) represents a maximum development scenario which may not occur due to a range of factors.

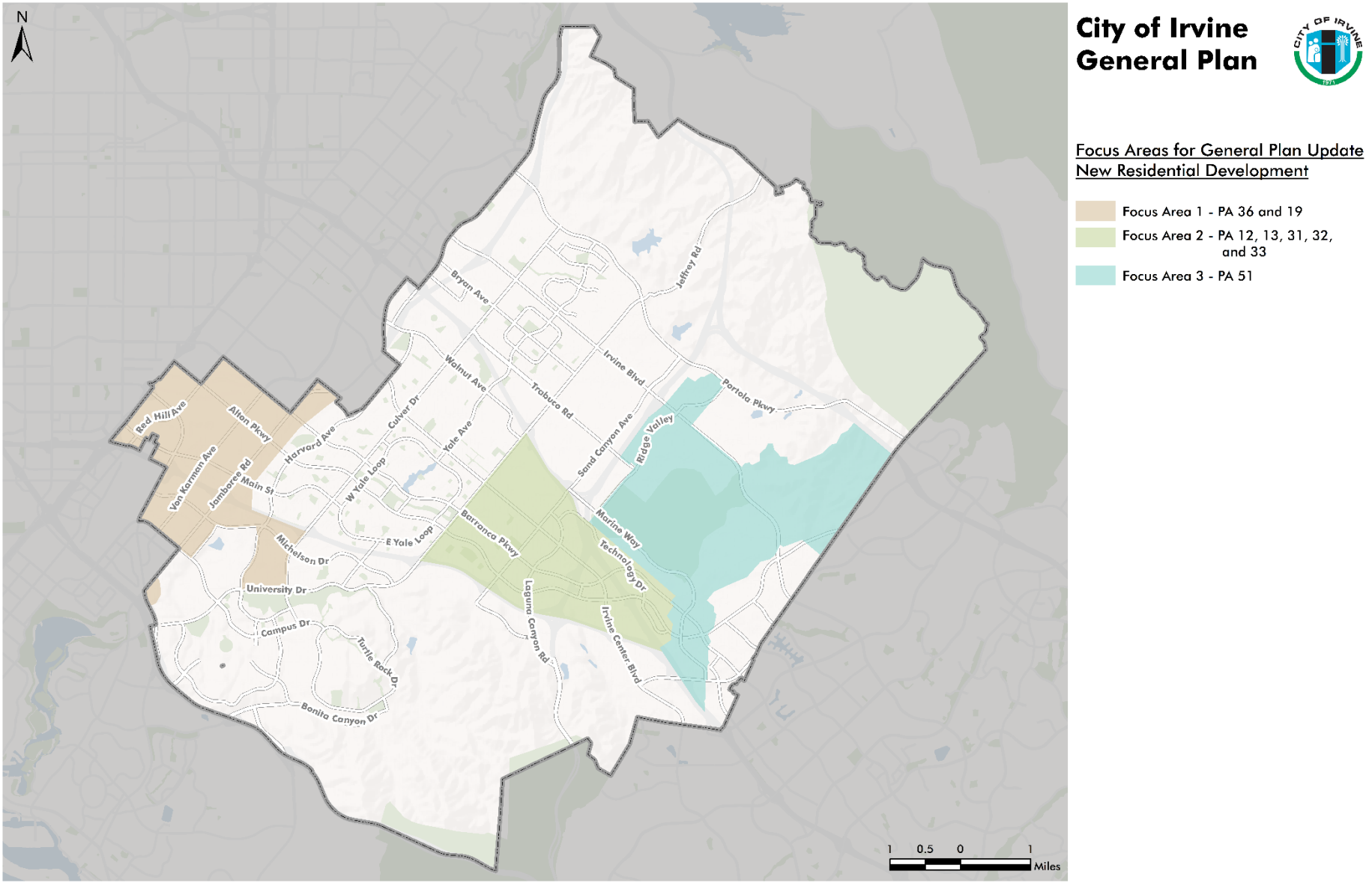
A more realistic Reduced Project Alternative was therefore developed with the assumption that a portion of future unbuilt non-residential square footage would be converted to housing, thereby reducing the total number of dwelling units. Therefore, because of the conversion of non-residential uses to residential uses, the City would add 42,639 units (or 40,378 new residential units plus 2,261 unbuilt units already in the General Plan) under the Reduced Project Alternative. The Reduced Alternative has 15,017 fewer units compared to the maximal Conservative Project Alternative.

Specifically, to accommodate the City's RHNA requirement for new residential units, the project would implement the 2021-2029 Housing Element through the introduction of additional residential and/or mixed-use development throughout the City using overlay zones and/or master plans to allow greater flexibility for property owners and developers. The overlays would promote higher density residential and mixed-use in three focus areas, targeted retail centers, conversion of hotel/motel, and on religious and school sites. It is anticipated that most of the future residential growth would occur in three focus areas that are most suited for new growth and development as they are located near existing job centers and are along major travel corridors with access to existing and future public transit opportunities as shown in **Figure 2-1**.

- Focus Area 1 is the Irvine Business Complex (PA 36 and PA 19);
- Focus Area 2 is the Spectrum area (PAs 13, 31, 32, 33, and a portion of PA 12); and
- Focus Area 3 is the Great Park Neighborhoods (PA 51)

There are also new housing units planned outside the focus areas. In the Conservative Alternative 8,536 of the 55,395 units are located outside the focus areas while in the Reduced Alternative 4,071 of the 40,378 units are located outside the Focus areas.

Figure 2-1: Focus Areas for General Plan Update – New Residential Development



N**on-Residential Land Uses:** In addition to the RHNA residential uses, the project includes additional non-residential park uses within the Irvine Great Park (Great Park). Buildout of the Great Park Framework Plan non-residential park uses are included in all project alternatives except the Existing General Plan. The Existing General Plan is provided to illustrate the differences between the current and proposed General Plan and is intended to be used for informational purposes only.

Transportation Improvements: A transportation improvement is part of the project and included in all project alternatives except the existing General Plan. The extension of Ada from its current terminus in the parking lot of the Irvine Station south of the SCRRA railroad tracks is proposed to extend north under the railroad tracks to meet the future Marine Way extension north of the railroad tracks. The Ada roadway extension between the Irvine train station and Marine Way provides multi-modal connectivity to support the residential uses.

2.2 STUDY ALTERNATIVES

The VMT traffic study includes the evaluation of five project land use alternatives, including the Existing General Plan, and a single transportation alternative.

In accordance with the City's Traffic Study Guidelines, the alternatives were compared against a significance threshold that was based on a 15% reduction of existing on-the-ground conditions (2023), consistent with the release date of the Notice of Preparation (NOP) for the project. The five alternatives are:

1. **Existing General Plan/No Project** – This scenario represents the currently approved Buildout land uses including Great Park Framework Phase 1. Future development includes unbuilt dwelling units and non-residential uses. However, pursuant to CEQA Guidelines Section 15126.6, the City's analysis of proposed alternatives will also include a "no project" alternative.
2. **Proposed Project (Conservative Alternative)** – This alternative evaluates the Existing General Plan plus 55,395 RHNA housing units within the adopted Housing Site Inventory sites. Buildout of the Great Park Framework Plan non-residential park uses and the extension of Ada from the Irvine Metrolink/Amtrak Station to Marine Way are also included in this alternative.
3. **Reduced Project Alternative** – This alternative evaluates the Existing General Plan plus 40,378 RHNA housing units within the adopted housing site inventory sites. Buildout of the Great Park Framework Plan non-residential park uses and the extension of Ada from the Irvine Station to Marine Way are also included in the Reduced Project Alternative.
4. **Cumulative Plus Conservative Project Alternative** – This alternative evaluates the Proposed Project (Conservative Alternative) plus additional cumulative projects that are assumed to be built in the background conditions in both the City of Irvine and in surrounding jurisdictions. Cumulative projects include known future residential development in adjacent Cities.
5. **Cumulative Plus Reduced Project Alternative** – This alternative evaluates the Reduced Project Alternative plus additional cumulative projects that are assumed to be built in the in the background conditions in both the City of Irvine and in surrounding jurisdictions. Cumulative projects include known future residential development in adjacent Cities.

In addition to these five land-use alternatives, a VMT impact analysis was prepared for two transportation alternatives that proposes the extension of Ada from the existing terminus at the Irvine Station south of the SCRRA railroad tracks under the railroad to Marine Way north of the railroad tracks. To conservatively test the Ada extension in isolation, the City's Transportation Guidelines require a link-based VMT analysis comparing VMT with and without the proposed transportation improvements. Therefore, two additional alternatives were evaluated without Ada to assess the change in VMT associated with the Ada extension.

6. **Proposed Project (Conservative) Alternative without Ada Connection to Marine Way (Transportation Alternative)**
7. **Reduced Project Alternative Without Ada Connection to Marine Way (Transportation Alternative)**

Table 2-1 lists the residential project description for the Proposed and Reduced Project Alternatives by TAZ in the ITAM. **Table 2-2** summarizes the number of units by Planning Area. There are 55,395 residential units in the Proposed Project Alternative and 40,378 residential units in the Reduced Project Alternative. **Figure 2-2** shows the location and quantity shown in a bar graph of the residential units for both Conservative and Reduced Project Alternatives. **Figure 2-3** shows the residential units for the Proposed Project Alternative only and **Figure 2-4** shows the residential units for the Reduced Project Alternative only.

Table 2-1 – Residential Units by TAZ for the Proposed and Reduced Project Alternatives

Planning Area	TAZ	Description	Proposed Project Alternative (Units)	Reduced Project Alternative (Units)
4	37	Condominiums	357	293
6	69	Condominiums	400	284
8	81	Condominiums	274	186
8	102	Condominiums	625	276
12	163	Condominiums	1,113	800
12	165	Condominiums	1,500	1,270
12	166	Condominiums	500	250
12	168	Condominiums	1,170	850
12	169	Condominiums	624	500
15	237	Condominiums	2	2
19	267	Condominiums	482	411
19	268	Condominiums	1,720	1,700
20	272	Condominiums	152	119
24	314	Condominiums	823	555
31	344	Condominiums	638	25
31	346	Condominiums	638	25
31	350	Condominiums	638	25
31	354	Condominiums	1,020	181
32	355	Condominiums	1,216	1,051
32	356	Condominiums	428	400
32	357	Condominiums	909	795
32	358	Condominiums	3,010	2,000
32	359	Condominiums	1,417	1,400
32	360	Condominiums	118	100
32	361	Condominiums	1,478	1,150
32	362	Condominiums	1,460	1,100
32	363	Condominiums	998	950
32	364	Condominiums	1,351	1,000
32	365	Condominiums	1,852	1,550
32	366	Condominiums	1,634	1,600
32	367	Condominiums	1,946	1,840
33	370	Condominiums	383	383
33	375	Condominiums	340	340
33	384	Condominiums	226	226
34	389	Condominiums	85	-

Planning Area	TAZ	Description	Proposed Project Alternative (Units)	Reduced Project Alternative (Units)
35	407	Condominiums	12	-
35	410	Condominiums	2,623	500
35	412	Condominiums	1,232	305
35	419	Condominiums	392	278
35	421	Condominiums	401	400
35	424	Condominiums	579	79
36	426	Multi-Family	290	175
36	429	Multi-Family	386	300
36	433	Multi-Family	370	275
36	439	Multi-Family	613	600
36	443	Multi-Family	255	175
36	445	Multi-Family	217	150
36	452	Multi-Family	311	150
36	456	Multi-Family	73	-
36	458	Multi-Family	180	150
36	464	Multi-Family	738	345
36	466	Multi-Family	541	356
36	474	Multi-Family	1,000	250
36	494	Multi-Family	40	-
36	495	Multi-Family	600	450
36	497	Multi-Family	999	850
36	498	Multi-Family	418	300
36	499	Multi-Family	68	
36	503	Multi-Family	442	300
36	510	Multi-Family	527	400
36	518	Multi-Family	147	100
36	530	Multi-Family	231	175
36	531	Multi-Family	326	250
36	535	Multi-Family	117	25
36	548	Multi-Family	254	175
36	551	Multi-Family	1,543	1,460
36	552	Multi-Family	306	205
36	554	Multi-Family	362	300
36	559	Multi-Family	279	200
36	562	Multi-Family	814	740
36	568	Multi-Family	351	275
39	588	Condominiums	298	298
40	599	Condominiums	281	498
51	689	Multi-Family (GP)	192	192
51	698	Multi-Family (GP)	909	909
51	717	Multi-Family (GP)	81	81
51	718	Multi-Family (GP)	747	747

Planning Area	TAZ	Description	Proposed Project Alternative (Units)	Reduced Project Alternative (Units)
51	719	Multi-Family (GP)	1,200	1,200
51	721	Multi-Family (GP)	452	452
51	722	Multi-Family (GP)	1,671	1,671
TOTAL			**55,395**	**40,378**

Table 2-2 – Comparison of Residential Units by Planning Area

Planning Area		Proposed Project Alternative (Units)	Reduced Project Alternative (Units)
4	Lower Peters Canyon	357	293
6	Portola Springs	400	284
8	Northwood	899	462
12	Oak Creek	4,907	3,670
15	Woodbridge	2	2
19	Rancho San Joachin	2,202	2,111
20	University Park	152	119
24	University Town Center	823	555
31	Irvine Spectrum 6	2,934	256
32	Irvine Spectrum 3	17,817	14,936
33	Irvine Spectrum Center	949	949
34	Irvine Spectrum 5	85	0
35	Irvine Spectrum 2	5,239	1,562
36	Irvine Business complex	12,798	9,131
39	Los Olivos	298	298
40	Cypress Village	281	498
51	Great Park	5,252	5,252
Total		**55,395**	**40,378**

Figure 2-2: Proposed Project (Conservative Alternative) vs. Reduced Project Alternative - Residential Units.

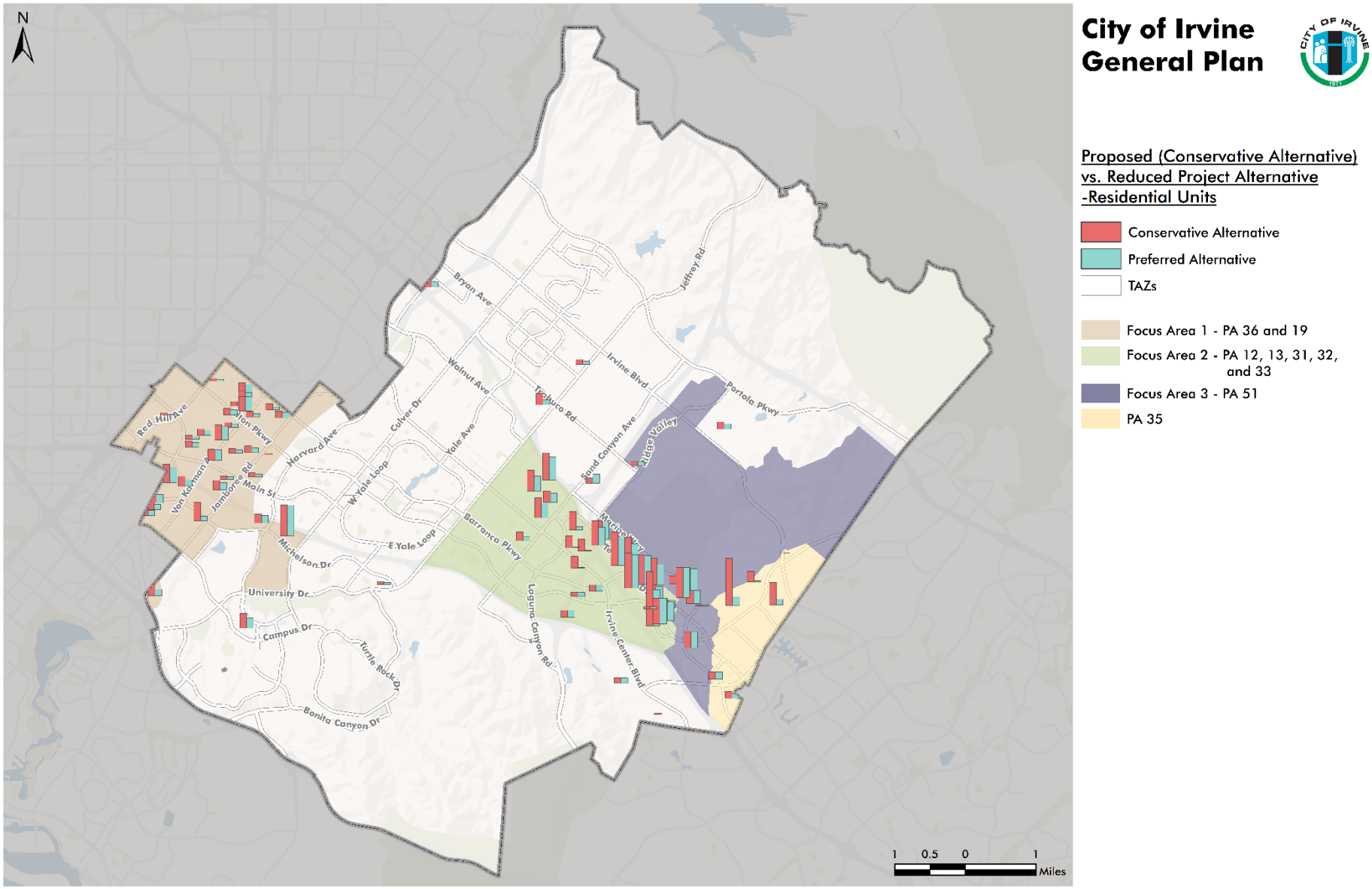


Figure 2-3: Number of New Residential Units – Proposed Project (Conservative Alternative)

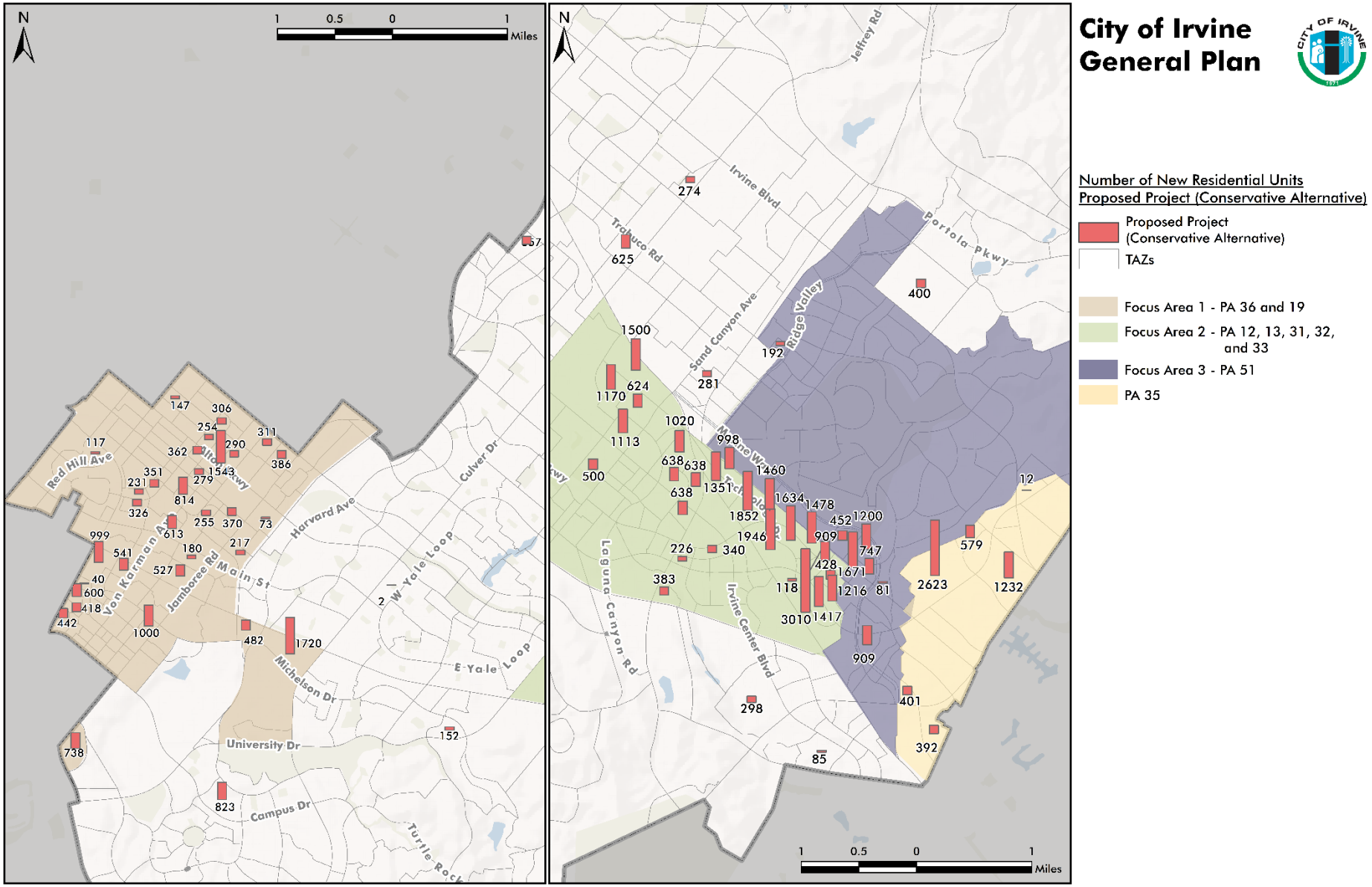


Figure 2-4: Number of New Residential Units – Reduced Project Alternative

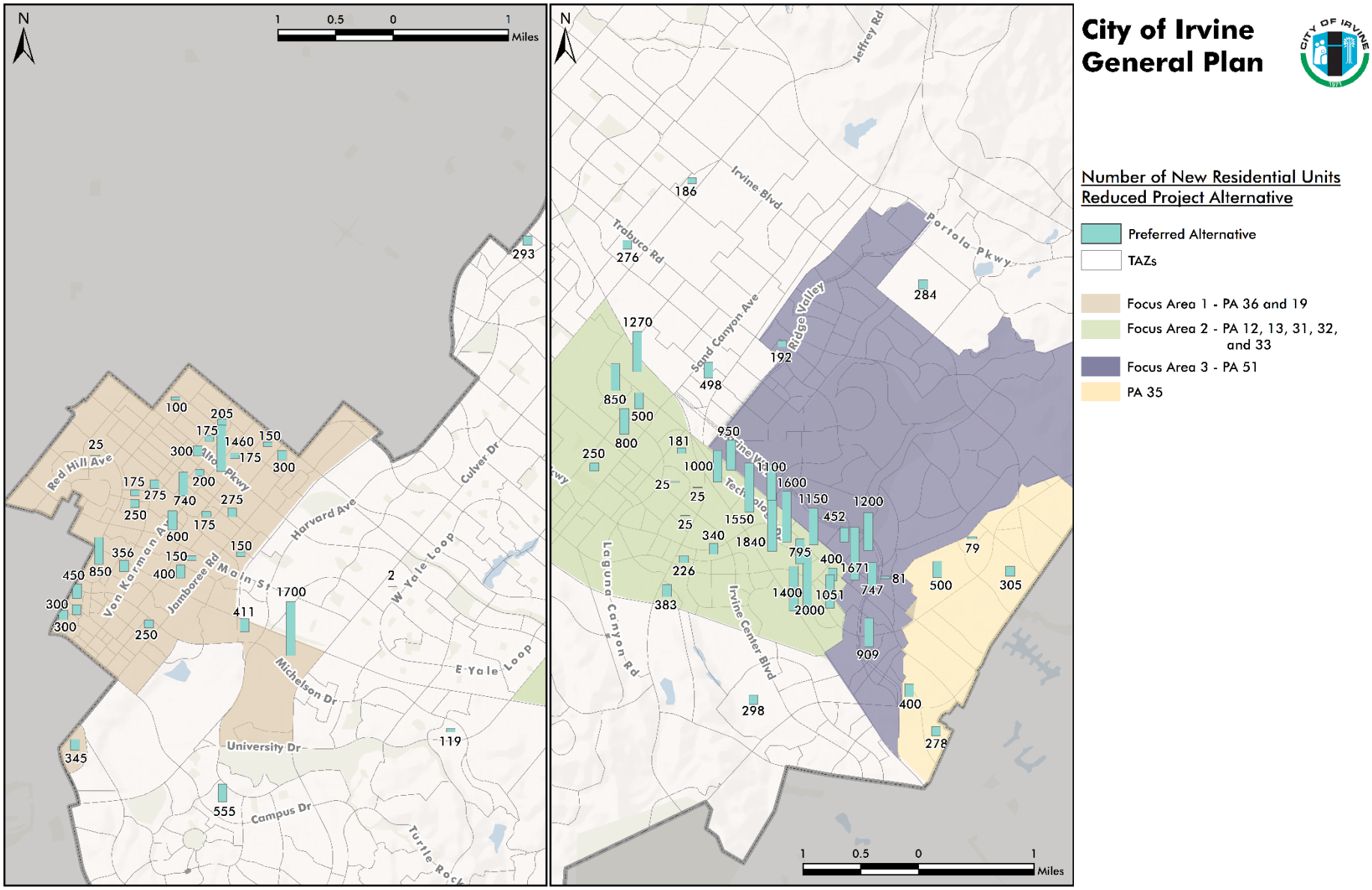


Table 2-3 lists the TAZs and non-residential buildout of the 200-acre Irvine Great Park Framework Plan park uses included in both the Proposed Project (Conservative Alternative) and the Reduced Project Alternative.

Table 2-3 – Non-residential Project Description for Proposed Project (Conservative Alternative) and Reduced Project Alternative

TAZ	Sector	Great Park Framework Plan Buildout in Excess of Phase 1	Approximate Quantities	Unit
644	ARDA	Botanical Garden	20	Acre
644	ARDA	Veterans Memorial Garden	20	Acre
644	ARDA	Library	60	TSF
644	ARDA	Discovery Center	7.18	TSF
658	Cultural Terrace	New Museum	400	TSF
664	Cultural Terrace	New Museum	400	TSF
656	Heart of the Park	Park	65	Acre
656	Heart of the Park	Accessory Restaurant	23	TSF
647	Sports Park	Aquatic Center Pools	3	Pool
647	Sports Park	Aquatic Stadium	2500	Seat
642	Bosque	Skate Park	6	Acre
669	Sports Park	Pickleball Court	20	Court

Cumulative Projects: For the Cumulative Plus Proposed Project (Conservative Alternative) and Cumulative Plus Reduced Project Alternative, a portion of each neighboring city's RHNA housing inventory has been added to ITAM based on the known geographic location of future development. These units have been included because they are located within ITAM TAZs physically near Irvine city limits in which land use input data can be added. In addition to the RHNA housing inventory from neighboring cities, some additional projects within the City of Irvine have been added to the Cumulative Plus Proposed Project (Conservative Alternative) and Cumulative Plus Reduced Project Alternative since these projects are currently in various stages of approval. These projects include:

- Bill Barber Gymnasium;
- Civic Center Office Expansion;
- Gateway Residential
- Heritage Park Expansion;
- PA 25 GPA/ZC;
- PA 39 GPA/ZC; and
- PA 40 Residential;

T**able 2-4** lists the projects added to the Cumulative Plus Conservative Project Alternative and Cumulative Plus Reduced Project Alternative.

Table 2-4 –Assumed Cumulative Projects

Project/City	TAZ	Unit	Description	Approximate Quantities
Bill Barber Gymnasium	199	TSF	Health Club	90
Civic Center Office Expansion	199	TSF	Office Mix (IBC)	70
Gateway Residential	76	DU	Multi-Family (IBC)	1,200
Heritage Park Expansion	154	Pool	Aquatics	1
Heritage Park Expansion	154	TSF	Community Facility	58
Heritage Park Expansion	154	Each	Tennis Courts	8

Project/City	TAZ	Unit	Description	Approximate Quantities
PA 25 GPA/ZC	316	DU	Multi-Family (IBC)	1,200
PA39 GPA/ZC	588	DU	Multi-Family (IBC)	372
PA40 Residential	606	DU	Multi-Family (IBC)	498
Laguna Beach		DU	Condominiums	169
Laguna Hills		DU	Condominiums	1,032
Laguna Woods		DU	Condominiums	836
Lake Forest		DU	Condominiums	1,998
Newport Beach		DU	Condominiums	2,557
Santa Ana		DU	Condominiums	1,100
Tustin		DU	Condominiums	4,031
Residential Units				
14,993				

The two Cumulative alternatives include a roadway network change that removes the Jeffrey Road extension from SR-241 to Santiago Canyon Road. This removed roadway has been identified as a candidate for removal from OCTA's Master Plan of Arterial Highways.

2.3 VMT STUDY AREA

The VMT study area measures the daily VMT from each of the TAZs within the City boundary and includes the full length of each trip generated in ITAM to and from each TAZ within Irvine. The ITAM area encompasses the northern five counties of the Southern California Associated Governments (SCAG) area, namely the Counties of Orange, Los Angeles, Riverside, San Bernardino, and Ventura.

3 EXISTING CONDITIONS

This section presents an overview of the existing land use. Additional relevant data sources such as 2020 Circulation Phasing Report and Active Transportation Plan were reviewed.

3.1 EXISTING LAND USE

Existing (Year 2023) land uses in the City were obtained from ITAM and aggregated and tabulated by different land use categories. **Table 3-1** shows the existing land uses within the City and **Table 3-2** shows a comparison between existing land uses and the Current General Plan.

Table 3-1 – Existing Land Use

Land Use Category	Unit	Amount
Agriculture/Open Space	Acre	5,264
Auto	TSF	571
Childcare Center	TSF	155
Church/Synagogue	TSF	1,129
College/University	TSF	560
Commercial	TSF	5,945
Community Facility	TSF	834
Government Facility	TSF	1,108
Hospital/Health Care	TSF	2,668
Hotel	TSF	731
K-12	TSF	3,130
Mobile Home	DU	893
Multi-family Housing	DU	80,656
Office/R&D	TSF	59,140
Park and Recreation	TSF	2,084
Retail TSF	TSF	1,322
Senior Housing	DU	988
Single-family Housing	DU	34,049
Transportation	TSF	23
Utilities	TSF	109
Warehouse/Industrial/Manufacturing	TSF	25,877

Table 3-2 – Current General Plan vs. Existing Land Use

Land Use	Unit	Existing	Current GP	Difference
Agriculture/Open Space	Acre	5,264	5,000	-265
Total Net Difference - Acre				**-265**
Mobile Home	DU	893	893	0
Multi-family Housing	DU	80,656	95,136	14,480
Senior Housing	DU	988	1,079	91
Single Family Housing	DU	34,049	35,186	1,137
Total Net Difference - DU				**15,708**
Auto	TSF	571	635	64
Childcare Center	TSF	155	220	65
Church/Synagogue	TSF	1,129	1,617	488
College/University TSF	TSF	560	961	401
Commercial	TSF	5,945	8,734	2,789
Community Facility	TSF	834	1,499	665
Government Facility	TSF	1,108	1,357	249
Hospital/Health Care	TSF	2,668	6,170	3,502
Hotel	TSF	731	731	0
K-12 TSF	TSF	3,130	3,640	510
Office/R&D	TSF	59,140	78,047	18,907
Park and Recreation	TSF	2,084	2,222	138
Retail TSF	TSF	1,322	1,894	571
Transportation TSF	TSF	23	23	0
Utilities	TSF	109	89	-20
Warehouse/Industrial/Manufacturing	TSF	25,877	28,261	2,384
Total Net Difference - Non-Residential TSF				**30,714**

Note: DU = Dwelling Units, TSF = Thousand Square Feet

3.2 EXISTING ROADWAY NETWORK STATISTICS

Using the ITAM model, lane miles for each arterial highway facility type within the City were calculated. Lane miles are used to measure the total length and lane count of a given highway or roadway. The following lists the roadway facility types within the ITAM roadway network:

1 – Freeway: Limited access, divided, grade separated highway
2 – Major: Six (or more) lane divided arterial highway
3 – Primary: Four lane divided arterial highway
4 – Secondary: Four lane undivided arterial highway
5 – Commuter: Two lane divided arterial highway
6 – Commuter: Two lane undivided arterial highway
7 – Expressway: Four (or more) lane divided with operational enhancements, possibly limited access
8 – HOV Facility
9 – Freeway Ramp
10 – Toll Facility

Table 3-3 shows the lane miles for each ITAM facility type.

Table 3-3 – City of Irvine Lane Miles

Facility Type #	Facility Type	Lane Miles
1	Freeway	170
2	Major Arterial	366
3	Primary Arterial	284
4	Secondary Arterial	125
5	Commuter Divided	38
6	Commuter Undivided	136
7	Expressway	14
8	HOV	44
9	Freeway Ramp	72
10	Toll Road Lanes	124
Total		1,373

4 VMT ANALYSIS METHODOLOGY

CEQA analysis for determining potential significant transportation impacts from vehicle traffic transitioned from an automobile delay or capacity measure to a VMT metric in July 2020, as required by Senate Bill (SB) 743. SB 743 directed agencies to develop new guidelines that provide a transportation performance metric that can help promote the reduction of greenhouse gas emissions, the development of multimodal networks, and diversity of land uses. **VMT is an area-wide performance measure** which helps compare the overall performance of a project or project alternatives and is also used as a metric to ultimately assess the transportation environmental impacts of a project.

VMT analysis shifts the focus towards impacts caused by the distance traveled by vehicles rather than the localized congestion created by vehicles (i.e., intersection-level delay). In essence, utilizing VMT means measuring the impact that motorists have on a network, as opposed to level of service (LOS), which assesses the impact of a project on motorists. In April 2018, the Office of Planning and Research (OPR) issued a Technical Advisory on Evaluating Transportation Impacts in CEQA, to provide CEQA practitioners with assistance and recommendations in applying the new SB 743 guidance. The City updated their traffic study guidelines in June 2020 (further updated in March 2023) to include VMT as the CEQA performance metric.

The City of Irvine maintains an in-house traffic model, ITAM, which is currently used to forecast traffic volumes and calculate Level of Service (LOS) and impacts associated with new development. The traffic model is based on and is certified consistent with the regional Orange County Transportation Analysis Model (OCTAM). The City of Irvine has developed a VMT calculation tool that appends to the traffic model.

The City's approach to calculating VMT "attributable to the project" is consistent with Section 15064.3 of the CEQA Guidelines. In this approach, ITAM is run with the project land uses, and VMT statistics are calculated using trip tables and travel distance "skims" for a project TAZ to calculate the project VMT rate. The project VMT rate is then compared to the VMT threshold rate based on existing conditions at the time when the updated traffic study guidelines were approved. The number of trips for each Origin-Destination pair are multiplied by the distance of that trip for each travel purpose and time period using congested travel times. ITAM also calculates the associated population and employment of a project through its land use to socioeconomic data conversion module. VMT, population, and employment for any given project can be calculated. To determine whether a project has a significant VMT impact, the project VMT metric is compared against the adopted threshold for that metric as shown below:

- **Residential projects:** The residential methodology captures VMT associated with the project and the population resulting from the project. This calculated VMT per capita is compared to the residential VMT threshold. Each residential project should consider if it is appropriate to account for other VMT contributing groups (i.e., residential projects with affordability component).
- **Non-residential projects:** The non-residential methodology captures all non-residential VMT (commute and other non-residential) associated with the project and the number of employees resulting from the project. Non-residential uses include offices, medical offices, hotels, and other land uses. Each non-residential project should consider if it is appropriate to account for VMT-contributing groups in addition to VMT-contributing employees. For example, a medical office may have a VMT-contributing group that considers project-specific estimated number of patients per day in the project VMT rate calculation. Based on extensive testing of this methodology and its application in the City of Irvine, this methodology meets the intent of SB 743. This calculated VMT per employee is compared to the non-residential VMT threshold.
- **Mixed use projects:** For mixed use projects, both the residential VMT per capita and non-residential VMT per employee are calculated. Each type of VMT is then compared to its corresponding threshold. This is consistent with OPR's Technical Advisory P17 *"Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail)."*

The City's Traffic Study Guidelines indicate that the City's goal and associated significance threshold criteria is for new projects to generate 15% less VMT per capita (or per employee) compared to existing conditions, which is consistent with OPR's Technical Advisory recommendations.

While the City's Traffic Study Guidelines provide VMT metrics for individual projects, there is no specific guidance for the treatment of area-wide or Citywide buildout plans such as the General Plan Update. Both the Current General Plan and the project alternatives contain significant changes to both residential and non-residential land uses from current on-the-ground conditions. The resulting VMT impacts of the plans are the result of the complex interaction of the future residential and non-residential development with the existing residential and non-residential development that is not adequately represented by separate residential VMT per capita or non-residential VMT per employee metrics. Instead, a more appropriate metric is **total** (residential plus non-residential) VMT per service population (the sum of population and employment). This methodology is consistent with analysis of citywide plans in other jurisdictions. Therefore, the project alternative will be assumed to have a less than significant impact if its VMT per service population is 15% below the VMT per service population in existing conditions.

Table 4-1 identifies the existing residential VMT per resident, the non-residential VMT per employee, as well as the VMT per service population with their respective significance thresholds using the City's VMT traffic model. The residential VMT significance threshold is based on the countywide population VMT divided by the countywide population. The non-residential VMT significance threshold is based on the countywide commute and other (i.e., customer and client) VMT trips divided by the number of countywide employees. The VMT per service population threshold is based on the total countywide VMT divided by the summation of the total countywide population and countywide employees.

Table 4-1 – VMT Rate Threshold Goals for Projects within the City of Irvine

VMT Metric	Existing	Threshold Goal (15 % reduction)
VMT per resident	17.50	14.88
VMT per employee	48.66	41.36
VMT per service population	28.30	24.06

For the City of Irvine GPU project, if the project VMT rate exceeds the significance threshold for VMT per service population (24.06), then the project is anticipated to create a significant VMT impact.

5 VMT RESULTS

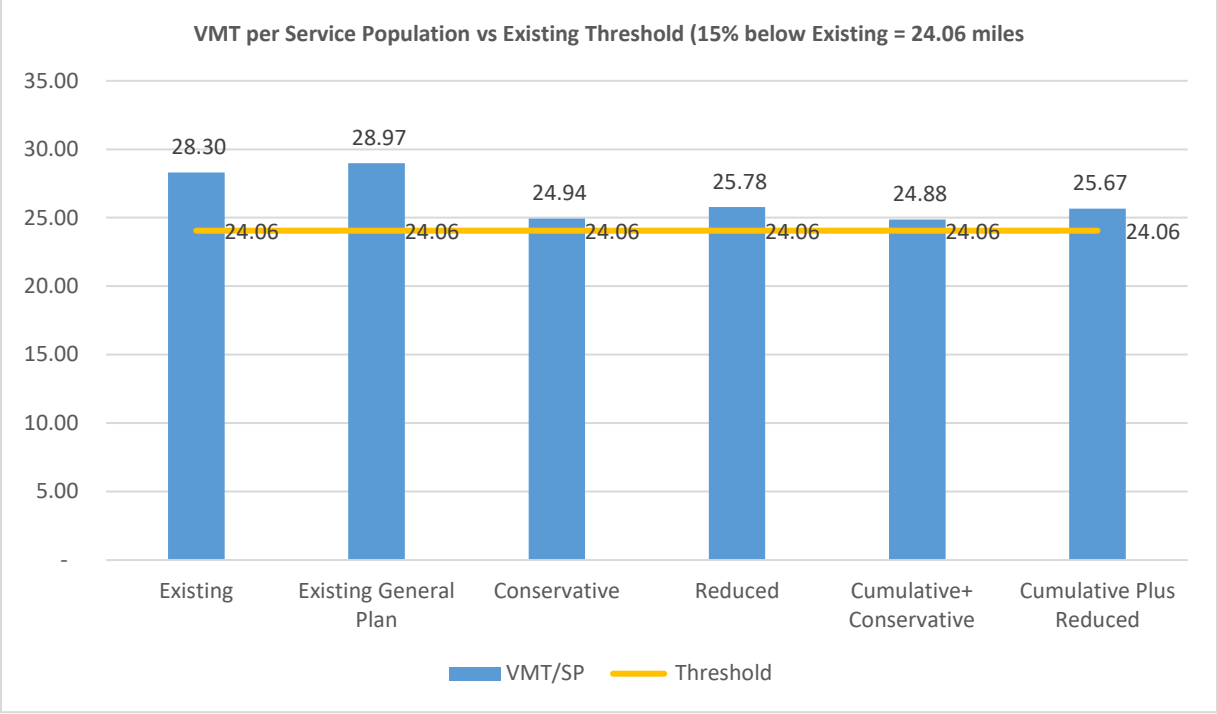
5.1 PROJECT ALTERNATIVES VMT

Table 5-1 summarizes the VMT per service population results associated with all five project alternatives compared to the threshold of 85% (i.e. 15% below) of existing conditions which is 24.06 miles. **Figure 5-1** shows the results graphically. All five project alternatives exceed the City's VMT per service population threshold by varying degrees.

Table 5-1 – VMT Analysis Results Summary

Project Description	Total VMT (miles)	Total Population	Total Employees	Service Population	VMT per Service Population	Miles Above Existing threshold	% Above VMT threshold	% VMT reduction needed to meet threshold
Existing General Plan	20,437,228	368,261	337,102	705,363	28.97	**4.98**	20.4%	17.0%
Proposed Project (Conservative) Alternative	21,337,558	517,654	337,910	855,564	24.94	**0.88**	3.7%	3.5%
Reduced Project Alternative	21,008,186	477,019	337,910	814,929	25.78	**1.72**	7.2%	6.7%
Cumulative Plus Proposed Project (Conservative) Alternative	21,516,666	526,535	338,391	864,926	24.88	**0.82**	3.4%	3.3%
Cumulative Plus Reduced Project Alternative	21,157,974	485,900	338,391	824,291	25.67	**1.62**	6.7%	6.3%

Figure 5-1: Comparison of VMT per Service Population



Existing General Plan/No Project Alternative has an average VMT per service population of 28.97, which is greater than the threshold of 24.06. Therefore, the Existing General Plan is considered to have a significant VMT impact under CEQA. This alternative would require a 17.0 % reduction in VMT impact to meet the significant threshold.

Proposed Project (Conservative Alternative). Results for the Proposed Project indicate that it would result in a VMT per service population of 24.94. Therefore, there would be a significant impact under CEQA that would require a 3.5% reduction in VMT impact to meet the significance threshold.

Reduced Project Alternative. Results for the Reduced Project Alternative indicate that this alternative would generate a VMT per service population of 25.78. Therefore, there would be a significant impact under CEQA that would require a 6.7% reduction in VMT impact to meet the significance threshold.

Cumulative Plus Proposed Project (Conservative Alternative). Results for the Cumulative Plus Proposed Project (Conservative Alternative) indicate that this alternative would generate a VMT per service population of 24.88. Therefore, there would be a significant impact under CEQA that would require a 3.3 % reduction in VMT impact to meet the significance threshold.

Cumulative Plus Reduced Project Alternative. Results for the Cumulative Plus Reduced Project Alternative indicate that this alternative would generate a VMT per service population of 25.67 . Therefore, there would be a significant impact under CEQA that would require a 6.3 % reduction in VMT impact to meet the significance threshold.

The two transportation alternatives are not analyzed for VMT per service population since their only purpose is to estimate the net VMT due to the new Ada connection. Ada is included in all four Project Alternatives.

5.2 DISCUSSION OF RESULTS

Increasing the number of residential units (and associated density) results in lower VMT per service population and therefore lesser VMT impact which may initially seem counterintuitive. However, the City is a major employment center and is “jobs heavy” with a high jobs-to-population ratio. The City has more jobs than can be sustained by the City’s own population. Many of the jobs are in relatively high-paying professions and employees are more likely and able to afford to make longer distance commutes from less dense residential areas within Irvine as well as residential areas outside the city.

While some of this long-distance travel may occur on freeways outside the city, a large proportion of the VMT will end up on city streets and intersections. The intention of the use of VMT metrics for CEQA is to move more towards regional effects to meet new types of environmental goals such as greenhouse gas effects on climate change rather than localized impacts that are based only on vehicle and driver delay. Shifting towards a more balanced jobs to population ratio can be expected to improve VMT metrics.

The jobs housing balance (more recently referred to as a “jobs-housing fit”) is discussed in an article on the Journal of the American Planning Associates, which indicates that from 2002 to 2015 the jobs housing balance was becoming more imbalanced in most Cities. One of the purposes of the VMT measure under CEQA is to address this balance to reduce commute distances.

> *“Municipal government officials and policymakers are increasingly working to encourage a functional balance between housing and employment opportunities, particularly as cities face growing housing affordability crises that push residents to live further away from their jobs and lengthen their commute times. However, while this jobs-housing balance was a popular topic among researchers in the 1990s, it has received less research attention in recent years.*
>
> *Evelyn Blumenberg and Hannah King revisit the issue in the* Journal of the American Planning Association*, "Jobs-Housing Balance Re-Re-Visited," in which they test how the jobs-housing balance has shifted in California cities and which factors might be influencing this shift. The authors specifically test whether cities in California have become more or less "self-contained" over time, which they measure using an independence ratio that compares the number of internal work trips*

in a city (in which the individual works and live within that same city) to external work trips (in which the individual works or lives in a different city).

$$\text{Independence Index} = \frac{\text{Internal Work Trips (work and live inside city)}}{\text{External Work Trips (work outside city} + \text{live outside city)}}.$$

The authors find that the majority of California's cities are becoming less self-contained, with the independence index dropping from 0.075 in 2002 to 0.063 in 2015. This finding extends to cities in the San Francisco Bay Area, where 22 of the 23 cities included became less self-contained from 2002 to 2015. This finding shows a reversal from Cervero's findings that used jobs-housing data from the 1980s, and which showed that Bay Area cities were actually becoming more self-contained at the time.

Ultimately, the authors make the case for a better alignment between housing, employment opportunities, and workers in order to lessen the trend of growing commute times."

Source: https://www.planning.org/blog/9220914/measuring-the-jobs-housing-balance-in-california/

Table 5-2 shows the jobs/housing balance for the City of Irvine compared to other jurisdictions in Orange County. The City of Irvine currently has roughly double the number of jobs per population as the rest of Orange County (1.01 vs 0.49). Adding new housing units will help offset this imbalance and provide shorter commutes therefore reducing VMT impacts.

Table 5-2 – Orange County Jobs to Total Population Existing and Year 2045 (Source: OCTAM)

City	Existing (2016) OCTAM			2045 OCTAM		
	Jobs	Population	Jobs/ Population Ratio	Jobs	Population	Jobs/ Population Ratio
Aliso Viejo	23,060	48,999	0.47	24,335	51,378	0.47
Anaheim	184,336	339,958	0.54	224,171	393,768	0.57
Brea	44,550	42,783	1.04	48,405	52,550	0.92
Buena Park	34,869	92,923	0.38	39,572	105,712	0.37
Costa Mesa	95,517	115,109	0.83	103,711	124,823	0.83
Cypress	27,214	52,666	0.52	30,270	54,718	0.55
Dana Point	10,500	27,996	0.38	12,057	29,553	0.41
Fountain Valley	29,758	53,162	0.56	32,286	55,264	0.58
Fullerton	66,802	147,890	0.45	85,386	164,441	0.52
Garden grove	57,608	172,344	0.33	68,163	182,432	0.37
Huntington Beach	75,233	195,170	0.39	81,972	203,004	0.40
Irvine	266,993	264,340	1.01	332,003	318,110	1.04
La Habra	21,187	56,339	0.38	26,440	59,702	0.44
La Palma	15,185	14,664	1.04	15,558	14,764	1.05
Laguna Beach	5,054	20,263	0.25	5,375	20,345	0.26
Laguna Hills	18,482	33,776	0.55	19,506	38,823	0.50
Laguna Niguel	18,821	69,340	0.27	21,237	70,887	0.30
Laguna Woods	5,199	15,536	0.33	6,472	15,755	0.41

City	Existing (2016) OCTAM			2045 OCTAM		
	Jobs	Population	Jobs/ Population Ratio	Jobs	Population	Jobs/ Population Ratio
Lake Forest	42,288	77,740	0.54	48,689	86,539	0.56
Los Alamitos	16,498	23,691	0.70	17,461	25,460	0.69
Mission Viejo	38,870	97,289	0.40	39,150	99,025	0.40
Newport Beach	82,574	82,512	1.00	84,118	89,698	0.94
Orange	123,075	139,550	0.88	144,021	155,096	0.93
Placentia	26,761	56,297	0.48	28,681	62,952	0.46
Rancho Santa Margarita	15,872	51,780	0.31	19,059	53,027	0.36
San Clemente	33,472	74,405	0.45	36,420	78,919	0.46
San Juan Capistrano	17,519	37,648	0.47	19,304	43,455	0.44
Santa Ana	158,741	338,586	0.47	168,731	358,731	0.47
Seal Beach	10,456	25,812	0.41	11,457	26,641	0.43
Stanton	8,706	37,515	0.23	10,070	41,495	0.24
Tustin	55,344	76,178	0.73	76,724	86,668	0.89
Unincorporated	40,303	139,364	0.29	57,311	203,925	0.28
Villa Park	2,199	6,203	0.35	2,369	6,357	0.37
Westminster	25,410	97,709	0.26	26,940	102,878	0.26
Yorba Linda	15,192	61,584	0.25	16,824	65,677	0.26
County	1,713,648	3,187,121	0.54	1,984,248	3,542,572	0.56
County excluding Irvine	1,446,655	2,922,781	0.49	1,652,245	3,224,462	0.51

Figure 5-2 shows the total number of jobs in bar columns superimposed on top of the average jobs per population by City within Orange County. The jobs to population ratio within Irvine was 1.01 in 2016 conditions. Irvine also had the highest number of jobs in Orange County with 264,340. The next highest City is Anaheim with 184,336 jobs. Other cities with high jobs to population ratios include the Cities of Newport Beach, Brea, and La Palma.

Figure 5-3 shows the forecast jobs housing ratios for 2045 using Orange County Projections data used by OCTA in the OCTAM model. This shows very similar results to the existing conditions data although the jobs-to-population ratio in Irvine becomes even more imbalanced, increasing from 1.01 to 1.04. This represents anticipated jobs and population based on the Existing General Plan.

Figure 5-2: Existing Jobs to Population Ratio and Total Employment (Source: OCTAM)

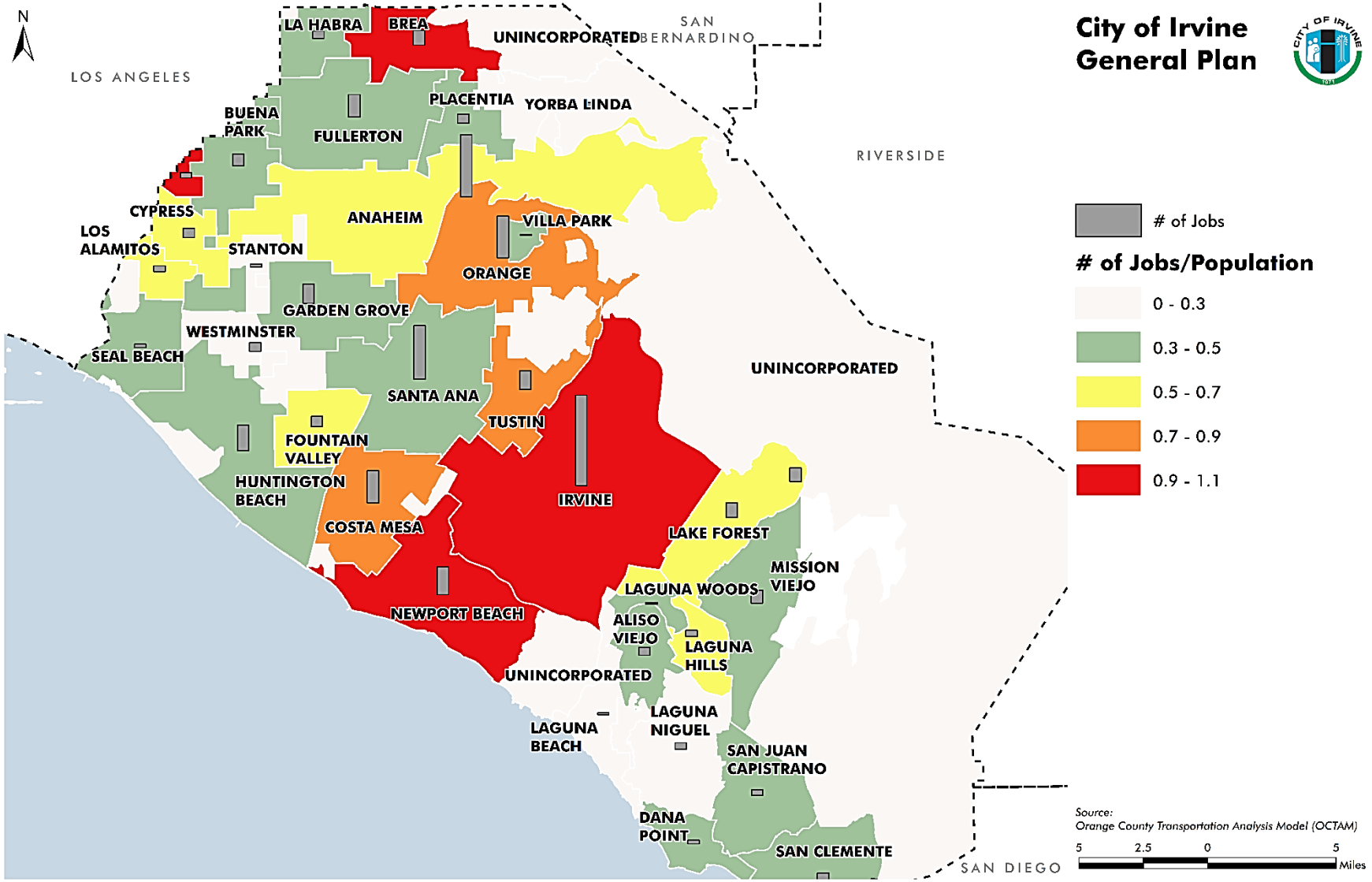
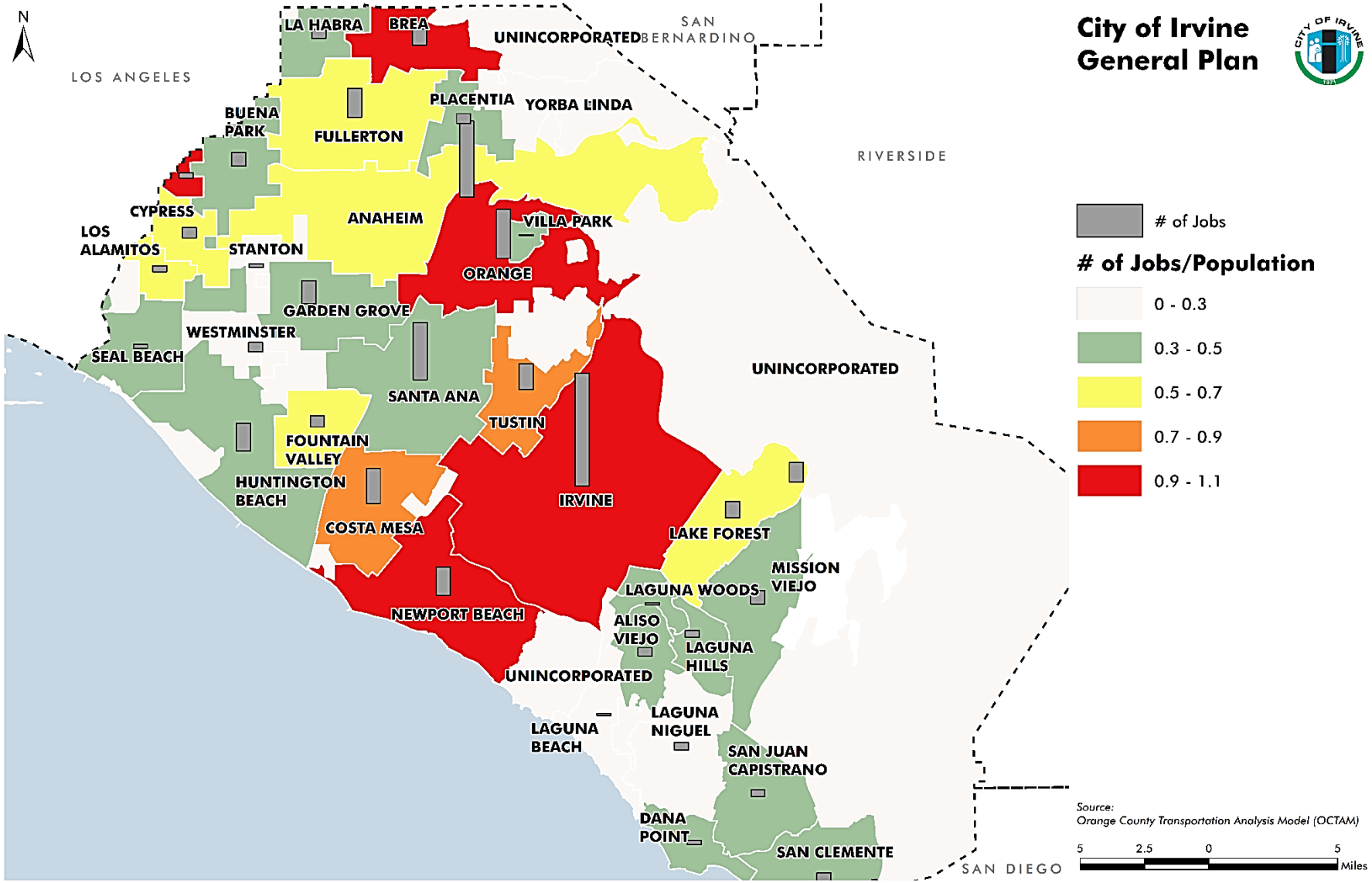


Figure 5-3 – Year 2045 Jobs to Population Ratio and Total Employment (Source: OCTAM)



Based on the VMT results and criteria, the Proposed Project Alternative results in a lower VMT per Service Population than the Reduced Project Alternative. **Table 5-3** represents the decrease in VMT per service population for each alternative compared to that of the Existing General Plan.

Table 5-3 – Reduced Project VMT per Service Population vs Conservative

Scenario	VMT per Service Population	Change from Current GP
Existing General Plan	28.97	
Conservative Project Alternative	24.94	-4.03
Reduced Project Alternative	25.78	-3.19
Conservative Plus Cumulative Project Alternative	24.88	-4.09
Reduced Plus Cumulative Project Alternative	25.67	-3.30

5.3 TRANSPORTATION ALTERNATIVE VMT

The Ada extension from the Irvine train station under the SCRRA railroad tracks to Marine Way would provide a new two-lane collector street connection to the future residential development in the Great Park neighborhood and the Irvine Great Park and will improve access to/from the train station for vehicles, pedestrians and cyclists. There is currently no direct path for pedestrians and bicyclists to gain access to land uses on the north side of the railroad tracks from the train station south of the railroad tracks.

The City's Traffic Study Guidelines provide a series of screening criteria to determine whether a transportation improvement would likely result in less than significant VMT impacts and therefore would not require VMT analysis. Most of these screening criteria relate to safety or operational improvements of existing roadway facilities; however, Ada is not an existing roadway providing vehicle access across the railroad tracks. There is justification that screening criteria may be applicable for the Ada extension improvement because the new connection would provide a grade separated crossing to protect vehicles, bicycles and pedestrians crossing the railroad tracks, as well as provide for a separation between pedestrians and bicycles from vehicular traffic on Ada.
City of Irvine Screening Criteria - Through Lanes:

- **Addition of roadway capacity on local or collector streets provided that the project also substantially improves conditions for pedestrians, cyclists,** and, if applicable, transit (e.g., protected and separated Class IV bikeway as well as pedestrian refuges, bulb-outs, and elements that shorten pedestrian crossing distances)
- **Grade separation to separate vehicles from rail**, transit, pedestrian or bicycles, or to replace a lane in order to separate preferential vehicles (e.g. HOV, HOT, or trucks) from general vehicles.

Although justification exists that the Ada extension may be screened from VMT analysis, a VMT impact analysis was performed for informational purposes.

A transportation project VMT impact analysis must evaluate the net change in VMT with and without the transportation project under the build-out scenario. A project that results in no net percentage increase in the total VMT results in no significant impact and therefore, does not require mitigation. This impact analysis methodology for transportation projects is consistent with the methodology employed by the California Department of Transportation as outlined in its Transportation Analysis Under CEQA. A project that results in a net increase in VMT may be deemed significant and may require mitigation such as Intelligent Transportation Systems (ITS) that integrate advanced communications technologies into transportation infrastructure and vehicles to advance safety and mobility.

Table 5-4 shows the computed link-based VMT from ITAM with and without Ada for the both the Proposed Project (Conservative) Alternative and the Reduced Project Alternative within a three-mile radius of the Ada extension. Three miles was considered a sufficient distance to capture a majority if not all diverted traffic. Overall, there is a 0.05% net reduction in total VMT in both scenarios when the Ada extension is implemented in the network. Therefore, based on

this net reduction in total VMT, there is no significant impact, and no mitigation is required in connection with the Ada extension. **Figure 5-4** shows the net daily traffic change (red increase, blue decrease) in volumes within the three-mile radius for the Proposed Project (Conservative) Alternative and **Figure 5-5** shows the Reduced Project Alternative.

Table 5-4 – Change in VMT With and Without Ada

Alternative	With ADA	Without ADA	Change	Percent Change
Proposed Project (Conservative)	5,807,694	5,810,612	(2,918)	-0.05%
Reduced Project	5,717,095	5,720,150	(3,055)	-0.05%

Figure 5-4 – Change in VMT With and Without Ada – Proposed Project (Conservative) Alternative

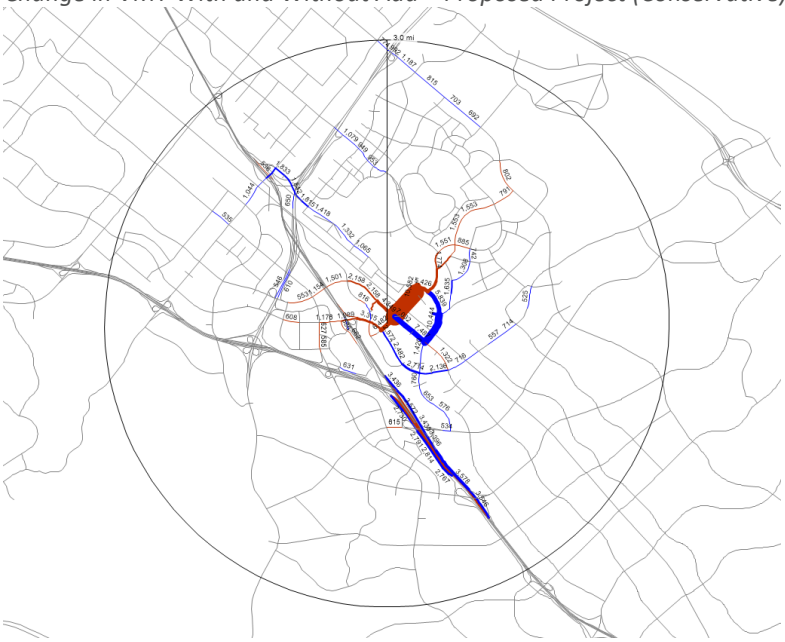
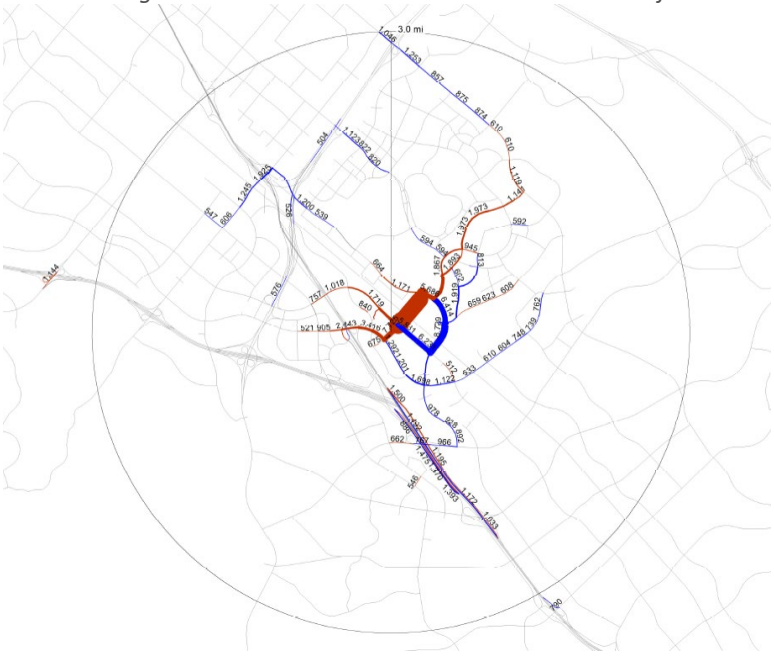


Figure 5-5 – Change in VMT With and Without Ada – Reduced Project Alternative



The net reduction in VMT is consistent with the expectation that a new transportation connection that provides connectivity between land uses on either side of a railroad track results in shortened journey distances, whereas if that connection did not exist, journey distances across the railroad tracks would be lengthier. This is noted in the Office of Planning and Research (OPR) Guidelines for SB 743 implementation (page 34):

> *"A project which provides new connectivity across a barrier, such as a new bridge across a river, may provide a shortened path between existing origins and destinations, thereby shortening existing trips. …… this trip-shortening effect might be substantial enough to reduce the amount of vehicle travel resulting from the project ……or even lead a net reduction in vehicle travel overall."*

6 MITIGATION MEASURES

When a project results in a significant VMT impact, the appropriate mitigation measures must be identified to reduce the VMT impact to a level that meets the City's adopted VMT threshold. All feasible mitigation measures must be incorporated into the project to substantially reduce the VMT impact even if the project cannot meet the adopted VMT threshold. If the project cannot meet the adopted VMT threshold rate after all feasible mitigations are incorporated, then a Statement of Overriding Considerations must be adopted along with preparation of an EIR in accordance with CEQA Guidelines.

6.1 AVAILABLE MITIGATION MEASURES

The City's Traffic Study Guidelines contain a 2-tier system for the VMT Mitigation Program:

Tier I – On-Site Infrastructure: An on-site connectivity reduction of 2.5 % VMT rate can be made due to on-site connectivity improvements as part of the project design to promote bicycle activity (i.e. bike facilities) and pedestrian walkability (i.e., connected sidewalks from building entrances to public streets. The 2.5 % reduction rate is based on the ranges provided in The California Air Pollution Control Officers Association (CAPCOA) Handbook for Analyzing Greenhouse Gas Emission Reductions (2021) https://www.caleemod.com/documents/handbook/full_handbook.pdf and other research *1 Handy, S. et al. (2014). Impacts of Pedestrian Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/ policies/policies.htm.*

Tier II – On-Site Transportation Demand Management (TDM): A reduction of up to 5% can be made if the project develops or is part of a Transportation Demand Management (TDM) program. This reduction is consistent with the CAPCOA Handbook and other research on trip reduction estimates and is supported by observed data from the annual Spectrumotion surveys submitted to the City *2 Boarnet, M. et al. (2014). Impacts of Employer-Based Trip Reduction Programs and Vanpools on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm*

While TDM programs in the past have typically focused on employer sites, they can also be implemented to new residential developments with measures such as bike share or car share programs.

Discussion of VMT Mitigation Fee Program: The purpose of a VMT mitigation fee program is to fund a set of off-site VMT reduction strategies (meaning strategies that would improve VMT conditions on a broader scale than a single development site) if Tier II reduction strategies are either infeasible or there is an inability to fully mitigate a potential significant VMT impact. A CEQA transportation mitigation fee program would include projects that could demonstrably reduce non-single occupancy vehicle mobility. These projects could either be existing projects from other fee programs or new improvement projects. Since the purpose of this program would be to streamline CEQA requirements, CEQA requires substantial evidence be provided to support findings with particular emphasis should be placed on feasible strategies for which there is a substantive body of evidence about their effects.

There are challenges involved in the implementation of a VMT Mitigation Fee Program including concerns regarding overall costs and the cost-effectiveness of VMT reduction measures, consistency with CEQA, and Mitigation Fee regulations such as nexus and additionally concerns about the economic impact of the fee on future development. These issues are compounded by the fact that several development projects would not need VMT mitigation.

The use of a Mitigation Fee Act (AB 1600 Requirements), Government Code § 66000- 66025-compliant program for use in the mitigation of CEQA significant impacts under the transportation resource area is something that has been explored by several jurisdictions; however, few jurisdictions have moved forward with such programs due to the technical infeasibility of such a mechanism for CEQA mitigation. The title of "Mitigation Fee Act" is not in reference to a CEQA mitigation of a significant environmental impact. The Mitigation Fee Act is intended to allow local agencies to impose a fee as a condition of approval of a development project at is imposed to provide for an improvement to be constructed

to serve the development project, or a fee for public improvements. Mitigation fees are developed by assessing an overall area deficiency and then using the cost of the improvements needed to address the deficiency, resulting in a fee per new unit of development.

CEQA mitigations have additional requirements beyond identification of a physical deficiency. CEQA mitigation's feasibility is determined through not only the type of improvement but its nexus, timeframe, effectiveness, and implementation—generally these requirements fall on the CEQA lead agency. Furthermore, mitigations must provide additional resources that otherwise would not have been provided or providing the additional resources substantially earlier than they otherwise would have been available. This "additionality" requirement means CEQA mitigation funds cannot replace other funds that could be available for a mitigation. In general, for CEQA transportation mitigations, both project applicants and CEQA lead agencies prefer to use infrastructure projects as mitigation where the project is considered mitigated once complete.

These additional requirements and practices result in difficulties in crafting and managing a program that satisfies both Mitigation Fee Act and CEQA mitigation requirements. For a programmatic environmental impact report, it is possible to determine a level of VMT that would need to be mitigated and attach that value to a fee-based mitigation program to be run by the City. This program would need to be closely monitored and managed to ensure mitigations were applied and effective and the program met ongoing legal requirements. In **Hamilton and High, LLC v. City of Palo Alto**, the California Court of Appeal ordered the City to refund nearly a million dollars of unspent "in-lieu parking fees" to the developer of a mixed use project because the City failed to meet the periodic reporting requirements of the Mitigation Fee Act.

Any mitigation that would be outside of the direct implementation of the City (e.g. Metrolink service improvements) may be considered infeasible due to the inability of the City to guarantee the implementation of the mitigation—and payment of mitigation funds to support ongoing projects may have issues with CEQA additionality requirements. This would leave the City with only City infrastructure or programmatic improvements which have not previously had identified funding as off-site mitigation options.

There is also the potential for yet-to-be identified projects which could reduce VMT to be included in a managed program—this is considered a mitigation bank / in-lieu fee option which would require a managed and monitored program run by the City. This model is used for natural habitat restoration. Caltrans and its local/regional partners who sponsor projects on the state highway system regularly pay in-lieu fees to mitigate impacts to biological resources at off-site locations with comparable habitat values. These in lieu fees are often paid to separate agencies or third parties such as a non-profit conservancies that ultimately carry out the biological mitigation activity as separate stand-alone projects. It is important to note that the technical and regulatory protocols regarding the nexus between biological impacts and mitigations is complex and wide-ranging—VMT-specific methodologies and protocols would be required to demonstrate the nexus between VMT impacts and mitigations to ensure the adequacy of mitigation under CEQA as revised by SB 743 and There would need to be a comparable mechanism in place to collect these funds and pass them through to a party that would carry out those strategies in order to demonstrate that their implementation is reasonably assured.

Examples of potential mitigation measures to include in such a program would be transit service funding for a set period or major infrastructure projects such as pedestrian bridges over major arterials. **Table 6-1** shows potential off-site mitigation measures and their potential maximum effect on VMT applied to a subset of project trips. A fuller list of potential VMT mitigation measures is included in **Appendix A** which is extracted from the Ventura County CEQA Vehicle Miles Travelled Adaptive Mitigation Program 2023 Ventura County Vehicle Miles Traveled Adaptive Mitigation Program - Ventura County Transportation Commission (goventura.org)

Table 6-1 – Potential Off site VMT mitigation measures (CAPCOA)

Category	Type	Strategy	Maximum	Affected Group
Land Use	Location	Improve Street Connectivity	30%	Community
Neighborhood Design	Infrastructure	Provide Pedestrian Network Improvement	6.4%	Community
Neighborhood Design	Infrastructure	Construct or Improve Bike Boulevard	0.2%	Corridor
Neighborhood Design	TDM	Implement Conventional Carshare Program	0.15%	Community
Neighborhood Design	TDM	Implement Pedal (Non-Electric) Bikeshare Program	0.03%	Community
All Categories	Infrastructure	Require Contributions to Infrastructure Projects	varies	Community
Cleaner Vehicles and Fuels	TDM	Use Cleaner-Fuel Vehicles	100%	Vehicle replacement
Neighborhood Design	Infrastructure	Provide Traffic Calming Measures	1%	Corridor
Neighborhood Design	Infrastructure	Construct or Improve Bike Facility	0.8%	Corridor
Neighborhood Design	Infrastructure	Dedicated Land for Bike Trails	0.8%	Corridor
Neighborhood Design	Infrastructure	Expand Bikeway Network	0.5%	Community
Neighborhood Design	Infrastructure	Create Urban Non-Motorized Zones	0.2%	Community
Neighborhood Design	TDM	Implement Electric Carshare Program	0.18%	Community
Neighborhood Design	TDM	Implement Electric Bikeshare Program	0.03%	Community
Neighborhood Design	TDM	Implement Scooter-share Program	0.03%	Community
Parking Management	Infrastructure	Implement Market Price Public Parking (On-Street)	30%	Community
Road Pricing	Infrastructure	Implement Area or Cordon Pricing	22%	Community
Parking Management	Infrastructure	Install Park-and-Ride Lots	0.5%	Community
Parking Management	Infrastructure	Require Residential Area Parking Permits	0.36%	Community
Transit	Infrastructure	Increase Transit Service Frequency/Speed	11.30%	Corridor
Transit	Infrastructure	Extend Transit Network Coverage or Hours	4.6%	Corridor
Transit	Infrastructure	Provide Local Shuttles	2.5%	Community
Transit	Infrastructure	Implement Transit-Supportive Roadway Treatments	0.6%	Corridor
Transit	Infrastructure	Provide Bike Parking Near Transit	0.09%	Community
Transit	TDM	Microtransit NEV (neighborhood electric vehicles)	12.7%	Corridor
Transit	TDM	Reduce Transit Fares	1.2%	Community
Trip Reduction Programs	Infrastructure	Implement School Bus Program	63%	Students
Trip Reduction Programs	TDM	Implement School Pool Program	15.8%	Students
Trip Reduction Programs	TDM	Provide Community-Based Travel Planning	2.3%	Community

Potential alternatives to developing a Citywide VMT Mitigation Fee program are use of a regional VMT programs or a VMT mitigation bank administered by agencies such as SCAG or OCTA or development of a fair share mitigation cost applicants could apply towards off-site VMT reducing projects such as active transportation or affordable housing.

Currently there are no regional VMT mitigation programs in Orange County and there are increasing concerns about the legality of such programs due to the challenges of demonstrating a nexus from the fee to VMT improvements for an individual jurisdiction. An additional concern could be that development projects in Irvine could be mitigating impacts with transportation projects located outside of the City that would not necessarily benefit Irvine residents.

In summary, while there are potential mechanisms to have a programmatic approach to CEQA transportation mitigation based on VMT metrics, it is likely a new, managed mitigation program would need to be enacted by the City which would be subject to several statutory constraints. Most California cities are opting to continue project-level mitigation approaches where the project applicant is directed to develop mitigation with direction from City staff in their role as the CEQA lead agency.

6.2 POTENTIAL MITIGATION MEASURES

The Conservative Project Alternative requires a 3.5% reduction in VMT to meet the City's VMT threshold while the Reduced Project Alternative requires a 6.7% reduction in VMT to meet the threshold.

Therefore, both the Conservative and Reduced Project Alternatives could meet the VMT threshold with the implementation of a combination of on-site infrastructure improvements (2.5%) and on-site TDM programs (5%), which could provide an overall 7.5% reduction in VMT in certain areas of the City where a TDM program exists or could be introduced as part of a development agreement.

While mitigation measures do not necessarily apply to the Cumulative scenarios (since several projects are outside the City), the fact that the VMT per service population is lower in the Cumulative scenarios compared to the Non-Cumulative scenarios implies that Cumulative impacts would also be mitigated by the same measures needed to mitigate the Non-Cumulative scenarios.

Both options would involve identifying projects with potential VMT reduction improvements. For example, this could be done through projects identified in the City's Active Transportation Plan, or proposed new transit circulator routes, or estimating the VMT reductions and costing the capital and recurring costs of the program to determine a fee per VMT reduced. Other aspects that would need to be considered include:

- **Legal Foundation**: Does the program meet statutory requirements established under CEQA and other relevant state laws?
- **Agency Oversight & Funding:** Which entity would manage the program and how would the program administration be funded?
- **Geography & Scale**: Could the program be applied at multiple geographic scales? How would the location of VMT impacts relate to the location of mitigations?
- **Applicability:** To what types of projects would the program apply, and what types of mitigations would it support? Would the program promote equitable outcomes for members of underserved communities?
- **Data Analysis & Monitoring:** Would the program establish a standardized approach to evaluating VMT impacts and reductions, and have clearly defined methods for ongoing data collection and monitoring?
- **Program Risk Management:** Is the program clear and easy to understand, and does it result in predictable and affordable results?

7 CONCLUSIONS

- The Irvine General Plan Update will update the General Plan land use element to support the City's RHNA. For CEQA compliance, a VMT analysis has been completed for this project. The project includes five land-use alternatives and a single transportation alternative.
- Since there is no guidance in the City's Traffic Study Guidelines for the treatment of area-wide or Citywide plans, metrics and thresholds of significance for citywide land-use plans. Therefore, a threshold of significance was developed based on the VMT per service population, which is calculated by dividing the countywide total VMT by the sum of the total countywide population and countywide employment.
- The Current General Plan would result in a significant increase in VMT per service population compared to service population threshold, requiring a 17% reduction to meet the City's VMT per service population significance threshold.
- Both the Conservative and Reduced Project Alternatives represent a notable reduction in VMT per service population compared to the existing on-the-ground development and the Current General Plan. However, since the VMT threshold is 15% below existing conditions, there are still significant impacts with VMT per service population being higher than the acceptable threshold in both the Conservative and Reduced Project Alternatives. The Conservative Project Alternative requires a 3.5% reduction in VMT to meet the City's VMT threshold and the Reduced Project Alternative requires a 6.7% reduction to meet the City's VMT threshold.
- The Cumulative conditions result in a marginally lower VMT per service population compared to the Non-Cumulative alternatives.
- The impacts in both Cumulative and Non-Cumulative for both Conservative and Reduced Project Alternatives could potentially be mitigated in certain geographical areas of the City by using a combination of on-site connectivity design and TDM measures, that would result in up to a 7.5 % reduction in VMT.
- While there are potential mechanisms to have a programmatic approach to CEQA transportation mitigation based on VMT metrics, it is likely a new, managed mitigation program would need to be enacted by the City which would be subject to several statutory constraints. Most California cities are opting to continue project-level mitigation approaches where the project applicant is directed to develop mitigation with direction from City staff in their role as the CEQA lead agency.
- The extension of Ada from the Irvine Train Station to Marine Way would result in a minor reduction in VMT and improve pedestrian and bicycle connectivity thereby reducing travel distances between the train station and the future development north of the train tracks. Improved access to the train station will also encourage the use of rail trips instead of car trips. While this improvement could potentially be screened out from VMT analysis, a VMT analysis was performed the results of which indicate that there was a net reduction in VMT with the proposed Ada extension. Therefore, VMT impacts under this scenario would be less than significant and there is no significant impact associated with this improvement. This is consistent with expectations when providing a new roadway connection that shortens trip distances.

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APPENDIX I

Proposed Conditions Infrastructure Report for Water, Sewer, Storm Drainage, and Water Quality

CITY OF IRVINE
GENERAL PLAN UPDATE

Proposed Conditions Infrastructure Report for Water, Sewer, Storm Drainage, and Water Quality

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Orange County, California

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Date Prepared: March 13, 2024

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1. INTRODUCTION

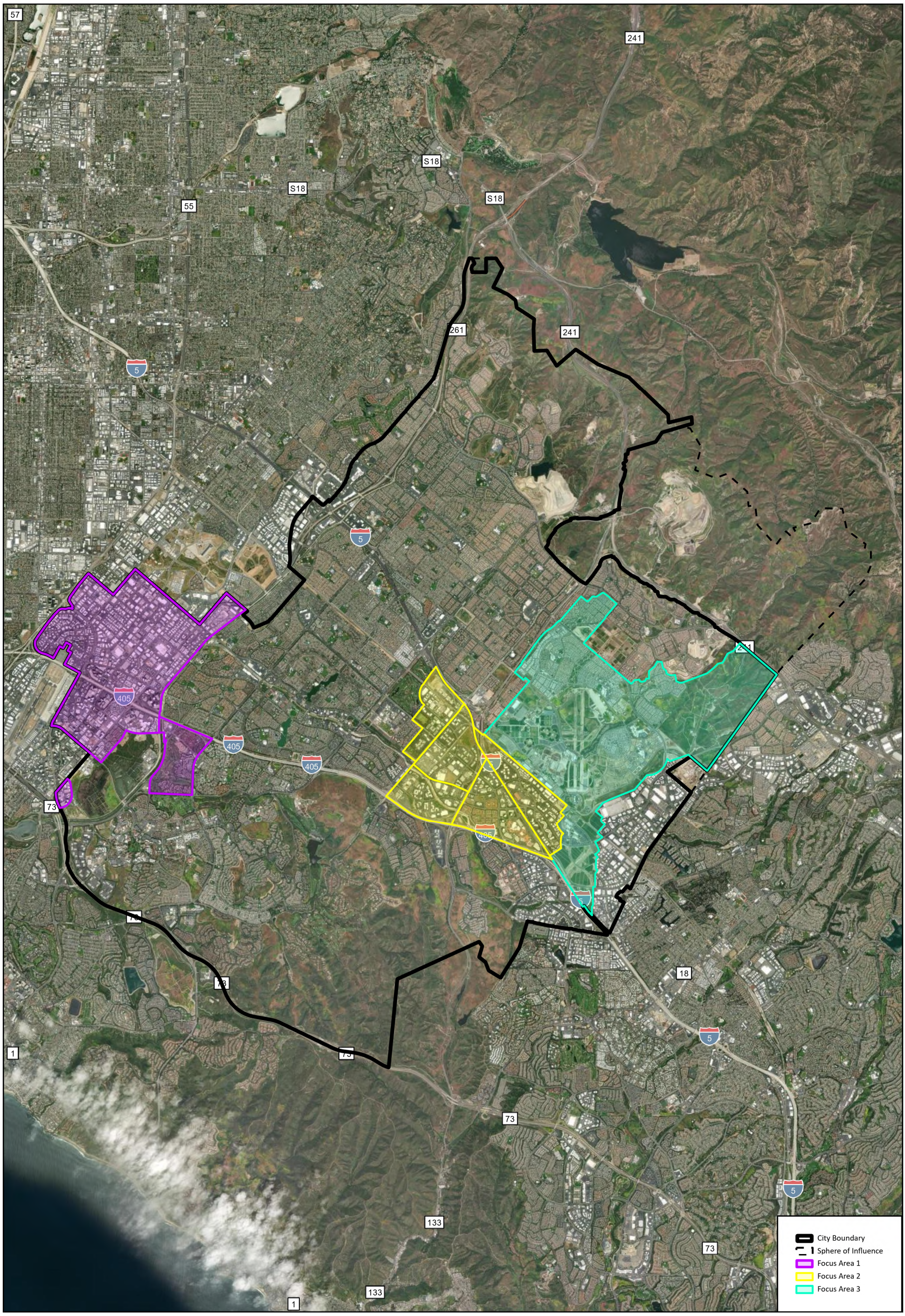
1.1 PROJECT DESCRIPTION

The City of Irvine ("City") is currently undergoing a General Plan Update (GPU), which is intended to shape development and redevelopment in the City over the next 30-plus years. A General Plan is the principal long-range policy and planning document for guiding California cities and counties' physical development, conservation, and enhancement of. As part of the GPU and the California Environmental Quality Act (CEQA), infrastructure such as drainage, sewer, water systems, and water quality that support the existing and proposed land uses will be evaluated at a programmatic city-wide level in connection with the proposed land use changes and focus areas.

1.2 SCOPE OF WORK

This infrastructure assessment report describes the primary wet utility infrastructure systems that support the City of Irvine and its sphere of influence (SOI), including water, sewer, storm drainage systems, and water quality programs. As part of the California Environmental Quality Act (CEQA) process associated with GPUs, infrastructure, and utilities that support the existing and proposed land uses will be analyzed at a level consistent with the GPU city-wide program-level planning of an Environmental Impact Report ("EIR"). This report will evaluate the existing conditions of the infrastructure systems that serve the City and SOI ("Irvine GPU"). Under the proposed GPU, the proposed buildout and land use changes will alter demands on existing infrastructure and utilities. The analysis within this report will review, identify, and summarize the effects of the proposed conditions on the existing infrastructure within the water, sewer, storm drainage, and water quality systems. Any significant deficiencies will be identified, along with the tools available to address them, including any major Capital Improvements Plans (CIP) to remedy existing or prospective deficiencies within the City GPU.

See Figure 1 for an aerial extent of the Irvine GPU area.



City of Irvine GPU Aerial Extent

Figure 1

2/29/2024

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FULL CIRCLE THINKING

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1 inch = 7,000 feet

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1.3 LAND USE DESCRIPTION

The City of Irvine's Zoning Ordinance[1] defines the land uses throughout the City. The Ordinance establishes regulations to protect public health, safety, and welfare while ensuring alignment with the City's GPU. The ordinance assigns specific land use intensities to planning areas (PAs), promotes compatibility between natural and built environments, incorporates State-mandated development procedures, and maintains existing regulations that align with the GPU. Infrastructure improvements follow building intensity standards, develop new zoning criteria as needed for GPU consistency, and emphasize urban design to enhance the City's development. Additionally, the ordinance encourages innovative solutions within the City and its SOI.

PLANNING AREAS (PA)

The City is divided into distinct neighborhoods called Planning Areas (PAs) and each PA has a distinct set of land uses and zoning descriptions within the City's GPU. PAs facilitate coordinated development by requiring zoning in accordance with the City's general development standards and land use regulations. See Figure 2 for a visual of the PAs throughout the City.

LAND USE ELEMENT AND HOUSING ELEMENT

The City's Land Use Element defines local policies for land development, and aligns with the zoning regulations for various residential, commercial, industrial, etc. designations. One of the GPUs primary goals is to update the Land Use Element to align with the 2021-2029 Housing Element[2], a crucial component of the City's planning framework. The Housing Element analyzes present and future housing needs and establishes goals, policies, and programs for housing preservation, improvement, and development.

In accordance with California Government Code 65583(a), the Housing Element assesses housing needs, including an inventory of resources and constraints. Data from the Southern California Association of Governments (SCAG) and the Housing and Community Development (HCD) informs the City's Housing Element, which in the most recent 2021-2029 Housing element assigned the City a Regional Housing Needs Assessments (RHNA) of up to 23,610 dwelling units.

To comply with state housing statutes, including no-net loss and affirmatively furthering fair housing requirements, the 2021-2029 Housing Element also identified that the City has capacity for up to 57,656 new residential units through a sites inventory. However, the City's current GPU includes a significant amount of unbuilt non-residential square footage (SF) within the PAs. This surplus of non-residential space could potentially be converted to residential dwelling units (DUs).

[1] City of Irvine, Zoning Ordinance – Division 1 General Provisions and Definitions. Accessed March 2024. Found here: https://library.municode.com/ca/irvine/codes/zoning?nodeId=ZOOR_DIV1GEPRDE
[2] City of Irvine, 2021-2029 Housing Element. May 6, 2022. Found here: https://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=34118

Considering this potential conversion, a Reduced Project Alternative, also known as the Preferred Project, would require 15,019 fewer units compared to the Conservative Alternative, which captures all 57,656 new residential units. Instead, the Reduced Project Alternative would add 42,637 new DUs to the general plan to meet RHNA requirements and other development goals. Both approaches involve introducing additional residential and mixed-use development throughout the City using overlay zones and master plans, which offers greater flexibility for developers.

The residential overlays would encourage higher density residential (average 50 DUs/Acre) and mixed-use development in three focus areas. These areas are well-suited for growth, because of their proximity to existing job centers and major travel corridors with access to public transit options. Within this report's assessment of impacts to wet utilities and infrastructure, the Conservative Alternative/Proposed Project, with the most planned residential growth and units, will be the core focus as it has the potential to have the most impacts in comparison to the less intensive Reduced Project Alternative. See the descriptions of PAs and zoning designation within the three focus areas described below.

- Focus Area 1 – Greater Irvine Business Complex Area: PAs 19 and 36
- Focus Area 2 – Greater Spectrum Area: PAs 12, 13[3], 31, 32, and 33
- Focus Area 3 - Great Park Neighborhood Transit Village: PA 51

Existing land uses and their zoning descriptions are provided below Table 1.

Table 1 Focus Areas Existing Zoning Designations

Zoning Designation(s)	Acres within Focus Area	
Focus Area 1 – Greater Irvine Business Complex Area		
Commercial Recreation	34.91	1%
IBC Industrial	92.47	4%
IBC Multi-Use	2,022.39	78%
Irvine Business Complex Mixed-Use	55.31	2%
Irvine Business Complex Residential	102.73	4%
Medium-High Density Residential	71.20	3%
Medium Density Residential	62.61	2%
Neighborhood Commercial	5.00	0%
Recreation	147.14	6%
Water Bodies	2.74	0%
TOTAL ACRES	**2,596.49**	**100%**
Zoning Designation(s)	**Acres within Focus Area**	
Focus Area 2 – Greater Spectrum Area		
Community Commercial	122.46	7%

[3] Note that Planning Area 13 is included within this focus area, but no additional units are proposed or contemplated as part of the project. As such, the analysis with respect to water and wastewater throughout this report does not address Planning Area 13.

Development Reserve	32.03	2%
General Industrial	438.79	27%
Institutional	13.73	1%
Irvine Center Garden Commercial	137.93	8%
Irvine Center Regional Commercial	54.91	3%
Irvine Center Retail/Office Commercial	32.02	2%
Irvine Center Urban Commercial	136.77	8%
Medical and Science	570.41	35%
Preservation	5.88	0%
Recreation	101.49	6%
TOTAL ACRES	1,646.41	100%
Zoning Designation(s)	**Acres% within Focus Area**	
Focus Area 3 – Great Park Neighborhood Transit Village		
Exclusive Agriculture	117.73	3%
General Industrial	1.25	0%
Institutional	136.54	3%
Multi-Use	1.08	0%
Orange County Great Park	925.93	21%
Preservation	1,166.71	27%
Trails and Transit Oriented Development	1,971.60	46%
TOTAL ACRES	**4,320.84**	**100%**

As shown above in Table 1 the City's three focus areas of growth are currently zoned to consist of a range of residential, commercial, industrial, and mixed uses. Most important to note is that each focus area consists largely of one zoning designation with Focus Area 1 being IBC Multi-Use, Focus Area 2 General Industrial & Medical and Science, and Focus Area 3 Trails and Transit Oriented Development. These zoning designations are important to note as they will drive the City's existing land use demands for water and sewer and provide a basis of comparison in determining the effects of the GPU and Housing Elements proposed zoning changes to high density residential for these areas.

Refer to Figure 3 to see a visual of the zoning designations within the proposed Focus Areas of growth.

City of Irvine Planning Areas

Figure 2

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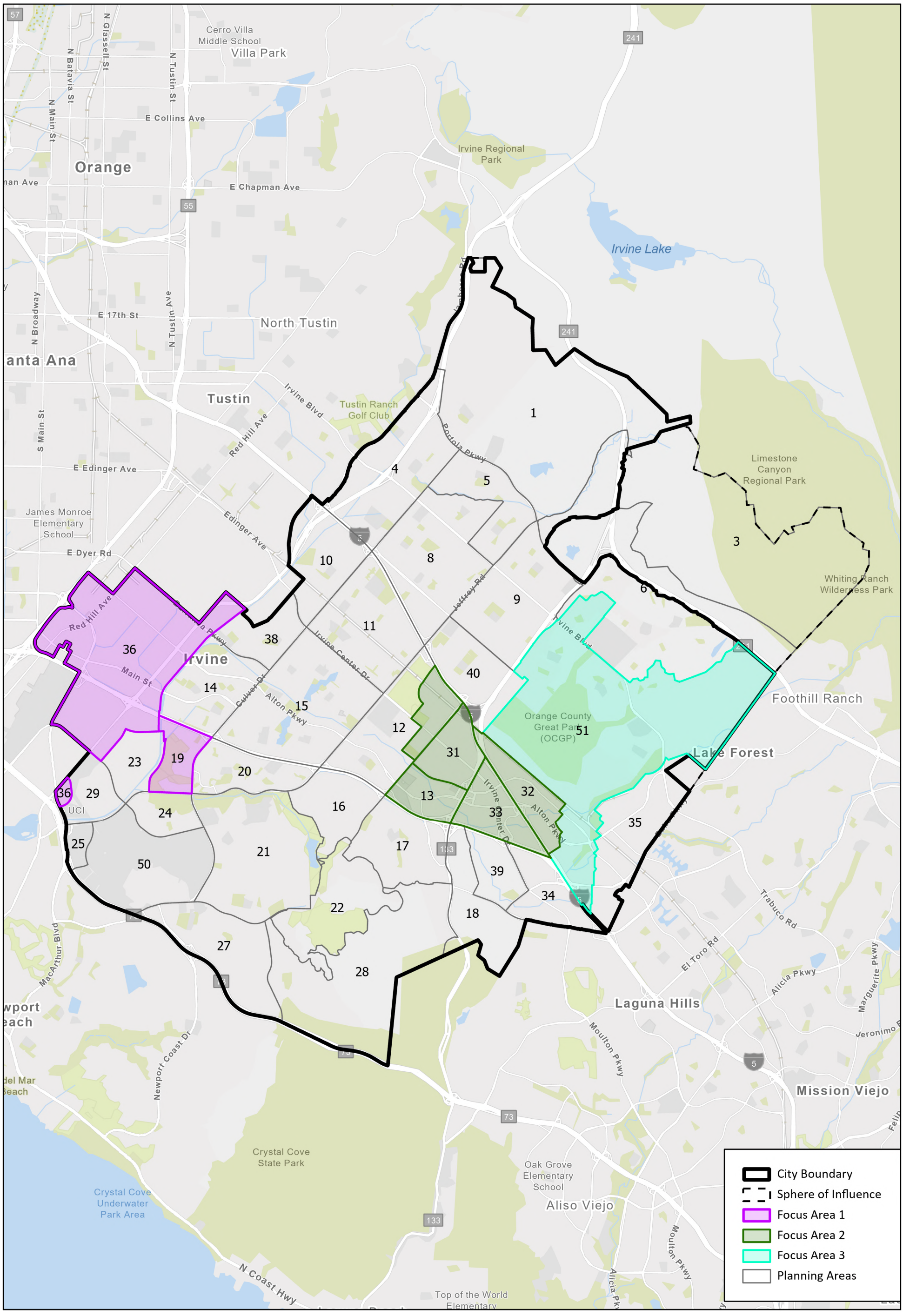

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City of Irvine Existing Zoning within the Focus Areas

Figure 3

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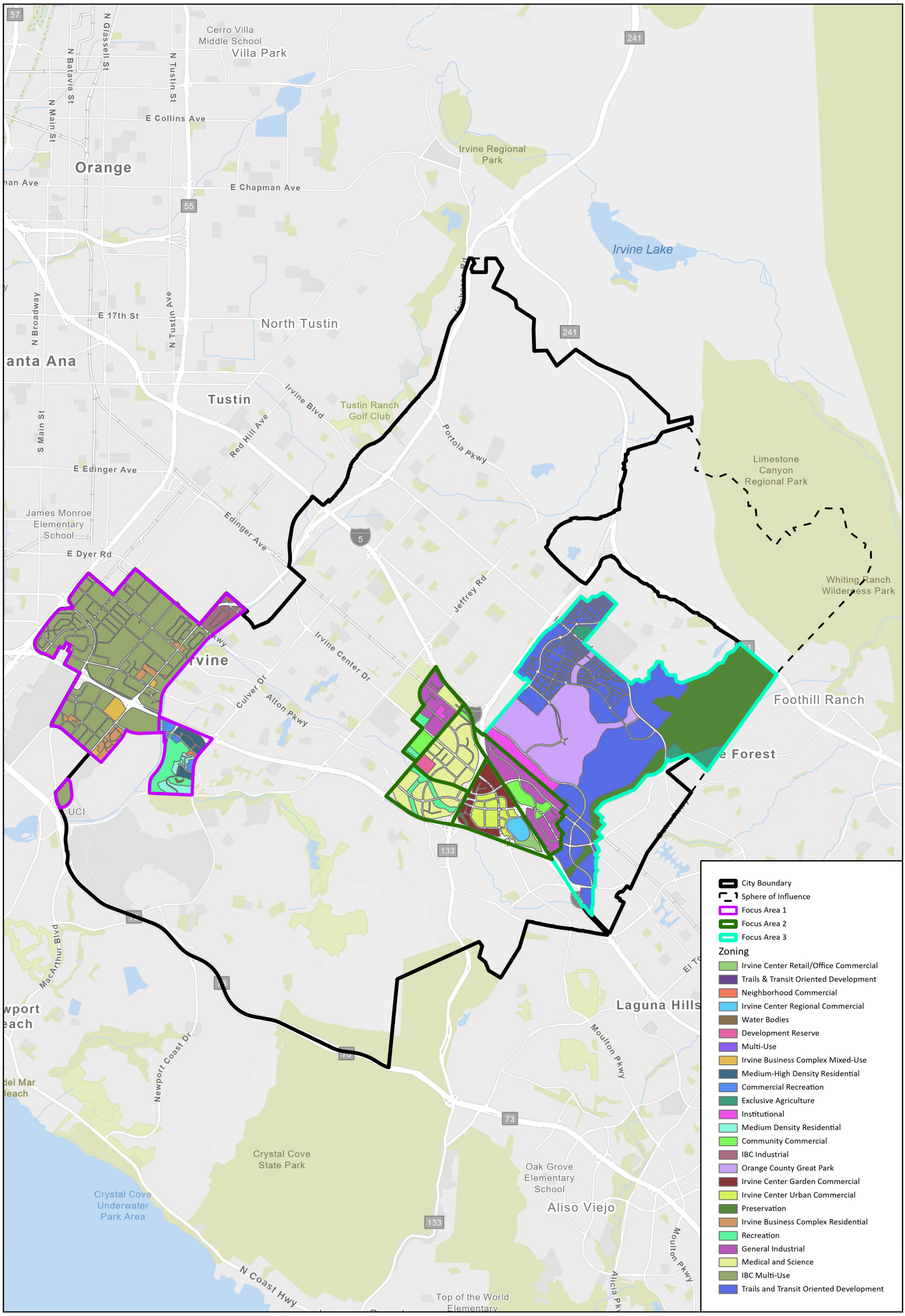

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FULL CIRCLE THINKING

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As discussed above, the City's Conservative Alternative Plan/Proposed Project expects to increase residential land use zoning throughout the City to allow up to 57,656 DUs under the Conservative Alternative housing plan. A majority, 81% of the residential land use increases will occur in the three focus areas and the remaining units 19% are allotted throughout the City's PAs. These units are expected to be higher density multifamily residential dwelling units with an average density of 50 DUs/Acre. See Table 2 below to understand which PAs and Focus Areas are expected to be zoned for more residential DUs.

Table 2 Proposed Buildout Plan

Planning Area(s)	Conservative Alternative Dwelling Units (DUs)	
Focus Area 1 - Greater Irvine Business Complex Area		
19 (Rancho San Joaquin)	2,202	DUs
36 (Irvine Business Complex)	12,798	DUs
Focus Area 2 – Greater Spectrum Area		
12 (Oak Creek)	4,907	DUs
31 (Irvine Spectrum 6)	2,934	DUs
12 (Oak Creek)	4,907	DUs
31 (Irvine Spectrum 6)	2,934	DUs
Focus Area 3 – Great Park Neighborhood Transit Village		
51 (Great Park)	5,252	DUs
Planning Areas Outside of the Focus Areas		
4 (Lower Peters Canyon)	357	DUs
6 (Portola Springs)	400	DUs
8 (Northwood)	899	DUs
15 (Woodbridge)	2	DUs
20 (University Park)	152	DUs
24 (University Town Center)	823	DUs
34 (Irvine Spectrum 5)	85	DUs
35 (Irvine Spectrum 2)	5,239	DUs
39 (Los Olivos)	298	DUs
40 (Cypress Village)	281	DUs
Pending Projects		
IRWD Site	1,261	DUs
Market Place	1,000	DUs
TOTAL	**57,656**	**DUs**

DU = Dwelling Unit
Source: City of Irvine, Project Description and Final Buildout. Received 18 January 2024.

This report will review the baseline conditions of the water, sewer, storm drainage system, and existing water quality regulations and analyze the potential impact of the proposed Conservative Alternative Plan on the existing infrastructure systems. For CEQA purposes the focus of these assessments will be concentrated on the three focus areas that will undergo the most intensive residential growth. The remaining units will

be spread out among ten different PA's throughout the City and the change in land use throughout the City is not significant enough to impact the existing sewer, water and storm drain systems. Analysis will utilize GIS tools, data, and communication with City staff and local providers.

2. WATER

2.1 WATER SYSTEM ENVIRONMENTAL SETTING & INFRASTRUCTURE

IRVINE RANCH WATER DISTRICT (IRWD)

The City's existing potable water system is fully encompassed within the Irvine Ranch Water Districts (IRWD) potable and non-potable water service area. IRWD also services portions of the surrounding cities of Tustin, Santa Ana, Orange, Costa Mesa, Lake Forest, Newport Beach, and unincorporated areas of the County of Orange. Altogether the service area is approximately 181 square miles with the City of Irvine and its SOI accounting for approximately 41% (74 square miles) of IRWDs service area.

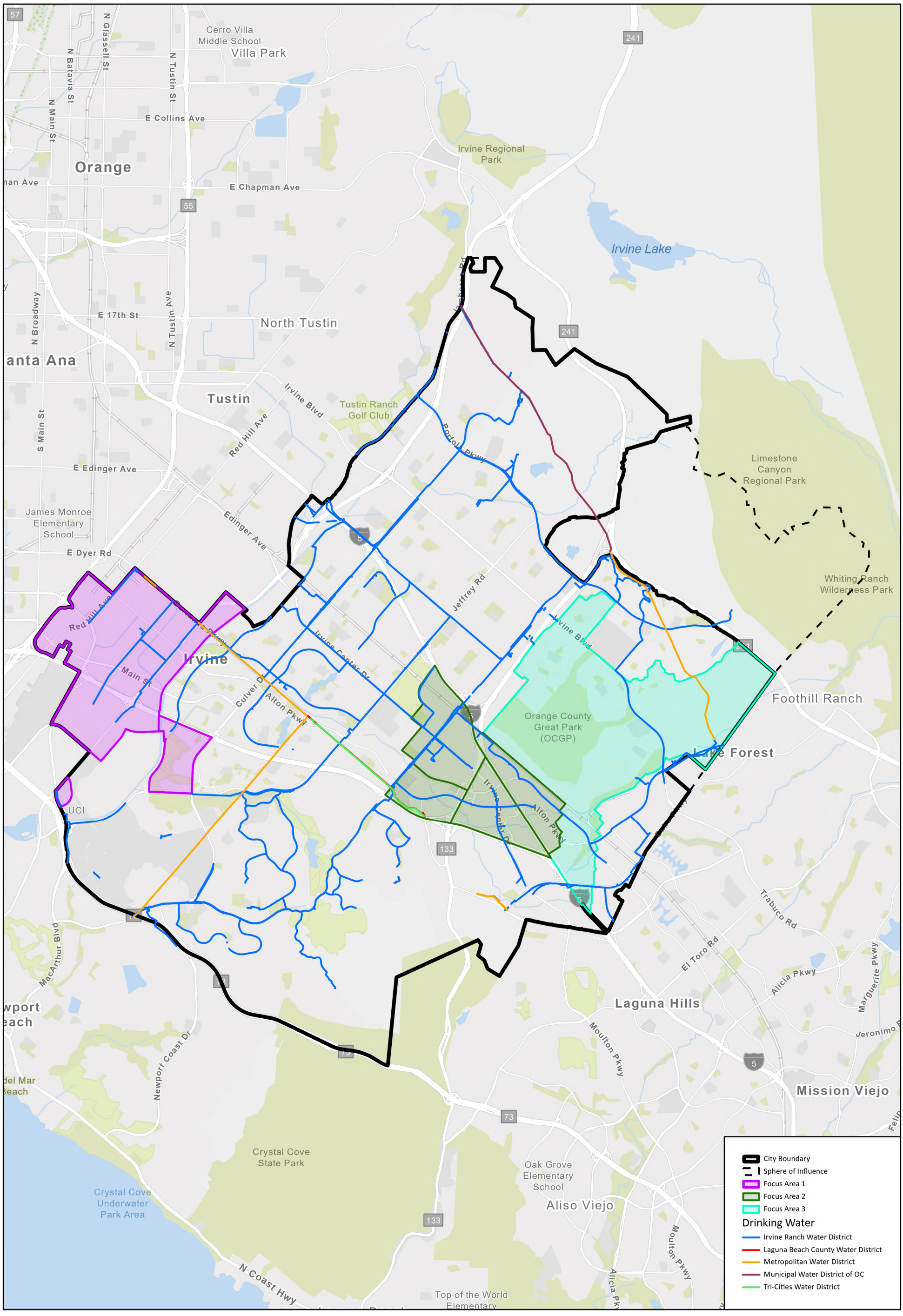
Because IRWD serves about one fifth of Orange County and it has facilities worth over $1 billion that include more than 1,500 miles of drinking water pipelines, more than 900 miles of sewer pipes, 53 reservoirs and two large water recycling facilities. Distribution pipelines within the City range in diameter between 1" and 72" and have a total length of approximately 78 miles. Most of the water pipes throughout the City are 8" pipes and most of the pipelines were constructed in the 1970's through the 2000's. Refer to Figure 4 to see the District's service area and facilities.

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY (MWDOC)

IRWD's imported water supplies come from the Metropolitan Water District of Southern California (Metropolitan) and is purchased through the Municipal Water District of Orange County (MWDOC). MWDOC is a wholesale water supplier and resource planning agency that serves all of Orange County through 27 retail water agencies (except for the cities of Anaheim, Fullerton, and Santa Ana). Local water supplies meet more than half of Orange County's total water demand. To meet the remaining demand, MWDOC purchases imported water- from the Colorado River and from the State Water Project in the north- through the Metropolitan Water District of Southern California, and distributes this water to its 27 member agencies, including IRWD. These member agencies are made up of both city water departments and water districts that provide retail water services to the public.

ORANGE COUNTY WATER DISTRICT (OCWD)

The Orange County Water District (OCWD) serves as the groundwater manager for the main Basin and sub-basins within its jurisdiction. OCWD oversees the groundwater management plan, updating it periodically to ensure effective water management practices. The Basin acts as an underground reservoir, with OCWD managing storage capacity to mitigate drought impacts. IRWD relies heavily on local groundwater sources, with approximately 50% of its overall supply coming from groundwater wells within the Orange County Groundwater Basin and its sub-basins, including Irvine and Lake Forest. IRWD operates groundwater-producing facilities within these areas, holding an adjudicated right to utilize groundwater from the Basin. OCWD's responsibilities extend to protecting water rights, managing replenishment efforts, and overseeing groundwater conditions within the Basin. Groundwater conditions are influenced by various factors, including natural hydrologic processes and artificial recharge methods. Despite challenges, the Basin remains a significant source of water supply for IRWD and other stakeholders within the region.



Existing Water System Facilities Within the City of Irvine

Figure 4

3/13/2024

FUSCOE ENGINEERING
FULL CIRCLE THINKING

N

1 inch = 7,000 feet

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2.2 EXISTING WATER DEMANDS

REGIONAL

Water demands throughout the District are driven by existing populations and projected growth linked to the Southern California Associations of Governments (SCAG) projections. SCAG utilizes a detailed modeling framework covering multiple Southern California counties including Orange County and the City. The population, household, and employment projections used by the District to forecast service area population and service connections tie back to the SCAG census tract land use and growth projections. See Table 3 for the District's estimated water demands for 2020 and projected demands for 2025 to 2040.

Table 3 IRWD Actual and Projected Water Demands

Land Use Type	Actual (2020) and Projected Water Demands (2025-2040) (AFY)				
	2020	**2025**	**2030**	**2035**	**2040**
Single Family	6,885	26,866	30,188	33,510	36,832
Multi-Family	24,955	12,515	14,062	15,609	17,157
Commercial	7,320	9,701	10,900	12,099	13,299
Industrial	5,024	4,465	5,018	5,570	6,122
Institutional/ Gov.	1,454	5,028	5,650	6,272	6,893
Landscape	6,176	1,705	1,915	2,126	2,337
Agricultural Irrigation	1,177	3,225	2,391	1,556	722
Other Potable/ Non-Potable	334	0	0	0	0
Losses	3,049	3,573	3,936	4,298	4,661
TOTAL	**56,374**	**67,078**	**74,060**	**81,040**	**88,023**

AFY = Acre-Feet Per Year

Source: Irvine Ranch Water District, UWMP "Table 4-1 and 4-2". Found here: https://wuedata.water.ca.gov/public/uwmp_attachments/2761173844/2020%5FUrban%5Fwater%5Fmanagement%5Fplan%5FIRWD%5Fadopted%5Fjune2021.pdf

As shown in the table above IRWD delivered 56,374 acre-feet (AF) of potable and non-potable water with residential demands (multifamily and single family) accounting for 56% or over half of water demands throughout the service area 2020IRWD projects that by 2040 its service area will demand up to 88,023 AFY, which is an increase of 31,649 AF. This significant growth is captured by IRWDs estimates that there will be significant increases in single family residential uses, commercial uses, and institutional/Government land use. During 2020 IRWD reports that the largest water use came from 44% multi-family residential units, 13% commercial, and 12% single family residential units.

LOCAL

The water demands generated within the City and its three Focus Areas are representative of a portion of all IRWD's customer water use and water demand

forecasting. All connections throughout IRWDs service area are metered and IRWD employs water use factors which assigns water demands to various land use types and then aggregates these demands. The water use factors are based on average water use and incorporate the effect of IRWD's tiered-rate conservation pricing (budget-based rates)[4]. For further details on the existing land use evaluation for water demands within the Focus Areas see Table 4 below and Appendix A for notes on how these calculations were derived.

[4] Irvine Ranch Water District, 2019, Water Resources Master Plan, Table 3-1

Table 4 Existing Land Use Evaluation for Water Demands

Planning Area	Proposed Residential (DUs)	Density/ Acre	Acres of Residential Development	City of Irvine Land Use Category	Estimated Existing Water Demand											
					IRWD Land Use Category	IRWD Water Use Factor Converted to (GPD/Acre)							Existing Water Demand (GPD)		Existing Water Demand (AFY)	
Focus Area 1 – Greater Irvine Business Complex Area																
19 (Rancho San Joaquin)	2,202	DUs	50 DUs/Acre	44 Acres	IBC Multi-Use	Light Industrial	70	GPD/KSF	43,560	SF/ Acre	3,049	GPD/Acre	134,287	GPD	150	AFY
36 (Irvine Business Complex)	12,798	DUs		256 Acres									780,473	GPD	874	AFY
Focus Area 2 – Greater Spectrum Area																
12 (Oak Creek)	4,907	DUs	50 DUs/Acre	98 Acres	General Industrial & Medical and Science	Industrial - Light & Regional Commercial	70	GPD/KSF	43,560	SF/ Acre	4,574	GPD/Acre	448,873	GPD	503	AFY
31 (Irvine Spectrum 6)	2,934	DUs		59 Acres									268,391	GPD	301	AFY
32 (Irvine Spectrum 3)	17,817	DUs		356 Acres			140	GPD/KSF					1,629,828	GPD	1,826	AFY
33 (Irvine Spectrum Center)	949	DUs		19 Acres									86,811	GPD	97	AFY
Focus Area 3 – Great Park Neighborhood Transit Village																
51 (Great Park)	5252	DUs	50 DUs/Acre	105 Acres	Trails and Transit Oriented Development	Regional Commercial	140	GPD/KSF	43,560	SF/ Acre	6,098	GPD/Acre	640,576	GPD	718	AFY
TOTAL	**46,859**	**DUs**		**937 Acres**									**ESTIMATED EXISTING WATER DEMAND**		**4,469**	**AFY**

AFY = Acre-Feet Per Year, DU = Dwelling Unit, KSF = thousand square feet, GPD = Gallons Per Day, SF = Square-Feet

As shown in the table above it is estimated that the existing land uses within the Focus Areas requires approximately 4,469 AFY or 3,989,238 GPD of water. To understand how these demands were generated please refer to the section below.

2.3 PROPOSED WATER DEMANDS

METHODOLOGY

In the process of developing existing and proposed water demands it was noted that the locations of the potential residential units were not readily available to provide a comparison in water use from the existing land uses to the proposed residential conversions. Without being able to specifically compare an existing condition location and associated water demand with a proposed residential location and associated water demand, a practical approach was taken. Namely, the primary focus of the City's Housing Element and the Conservative Alternative Plan/Proposed Project is intensified residential growth with an average of up to 50 DUs / Acre. This residential density was applied within the Focus Areas to determine an estimated acreage of residential development within each area.

After determining the acres of residential development, existing water demands were created by identifying the predominant existing land uses and zoning designations within each Focus Area. As noted in Table 1 each focus area consists largely of one zoning designation with Focus Area 1 being IBC Multi-Use, Focus Area 2 General Industrial & Medical and Science, and Focus Area 3 Trails and Transit Oriented Development. These primary zoning designations within each Focus Area were then matched to IRWD's water use factors, expressed in gallons per day per thousand square foot (gpd/ksf). These factors were then converted to acreages to establish a water use factor in gallons per day per acre (gpd/acre). This factor was then applied to each Focus Area's respective acreage of residential development to evaluate existing water demands in the area.

While this approach simplifies the calculation process and provides a reasonable estimate of existing water demands, it should be noted that it may not capture the full complexity of existing land use patterns and water use. Different land use categories such as commercial, industrial, or open space, may have varying water use profiles when compared to residential areas. However, due to the lack of detailed data on existing land uses, this approach is necessary to proceed with the analysis and determine the impacts on water and water infrastructure from an existing to proposed condition. By applying the average density of dwellings units per acre to the existing land use area, it allows for a consistent basis of comparison between existing and proposed water demands. It also provides a practical way to assess the potential impacts of proposed zoning changes on water demands within the City's Focus Areas of growth.

Similar to the existing land use evaluation methodology, the proposed water demand estimates also utilize the acreages of residential development to generate a proposed demand within the Focus Areas. To generate a water use, factor the average density of 50 DUs/ Acre was matched to IRWDs water use factor for high rise density units in Irvine. IRWD categorizes high rise density land uses as any development with a density of 40.0 DUs/Acre or more. Water demands associated with these high-rise density developments are shown to be 125 GPD/DU and this water factor was then converted to GPD/ Acre by applying the Housing Elements projected average density of 50 DUs/

Acre to it which results in a demand of 6,250 GPD/ Acre. Refer to Table 5 for the estimated demands generated from each Focus Areas of the residential development.

Table 5 Proposed Land Use Evaluation for Water Demands

Planning Area	Proposed Residential (DUs)	Density/ Acre	Acres of Residential Development	City of Irvine Land Use Category	Estimated Proposed Water Demands											
					IRWD Land Use Category	IRWD Water Use Factor Converted to (GPD/Acre)							Proposed Water Demand (GPD)		Proposed Water Demand (AFY)	
Focus Area 1 – Greater Irvine Business Complex Area																
19 (Rancho San Joaquin)	2,202 DUs	50 DUs/ Acre	44 Acres	IBC Multi-Use	High Rise Density - Irvine	125 GPD/DU		50 DU/Acre		6,250 GPD/Acre			275,250 GPD		308 AFY	
36 (Irvine Business Complex)	12,798 DUs		256 Acres										1,599,750 GPD		1,792 AFY	
Focus Area 2 – Greater Spectrum Area																
12 (Oak Creek)	4,907 DUs	50 DUs/ Acre	98 Acres	General Industrial & Medical and Science	High Rise Density - Irvine	125 GPD/DU		50 DU/Acre		6,250 GPD/Acre			613,375 GPD		687 AFY	
31 (Irvine Spectrum 6)	2,934 DUs		59 Acres										366,750 GPD		411 AFY	
32 (Irvine Spectrum 3)	17,817 DUs		356 Acres										2,227,125 GPD		2,495 AFY	
33 (Irvine Spectrum Center)	949 DUs		19 Acres										118,625 GPD		133 AFY	
Focus Area 3 – Great Park Neighborhood Transit Village																
51 (Great Park)	5252 DUs	50 DUs/ Acre	105 Acres	Trails and Transit Oriented Development	High Rise Density - Irvine	125 GPD/DU		50 DU/Acre		6,250 GPD/Acre			656,500 GPD		735 AFY	
TOTAL	**46,859 DUs**		**937 Acres**									**ESTIMATED PROPOSED WATER DEMAND**	**5,857,375 GPD**		**6,561 AFY**	

AFY = Acre-Feet Per Year, DU = Dwelling Unit, KSF = thousand square feet, GPD = Gallons Per Day, SF = Square-Feet

As shown above in Table 5 under the proposed Conservative Alternative/Proposed Project land use plan, the GPU will potentially increase the number of residential units by 57,656 DUs or 46,859 DUs (81% of all units) within the Focus Areas. This increase in units has the potential to generate demands up to 6,561 AFY or 5,857,375 GPD within the three Focus Areas. See Appendix A for a table of the water demand calculations and IRWDs water use factors.

The difference between the water demands calculated in Tables 4 and 5 are representative of the net change in demands for the areas of residential development. See Table 6 below for more details.

Table 6 Net Change (Existing to Proposed) Land Use Evaluation for Water Demands

Planning Area	Proposed Residential (DUs)		Net Change (Proposed-Existing)			
			Net Change (GPD)		Net Change (AFY)	
Focus Area 1 – Greater Irvine Business Complex Area						
19 (Rancho San Joaquin)	2,202	DUs	140,963	GPD	158	AFY
36 (Irvine Business Complex)	12,798	DUs	819,277	GPD	918	AFY
Focus Area 2 – Greater Spectrum Area						
12 (Oak Creek)	4,907	DUs	164,502	GPD	184	AFY
31 (Irvine Spectrum 6)	2,934	DUs	98,359	GPD	110	AFY
32 (Irvine Spectrum 3)	17,817	DUs	597,297	GPD	669	AFY
33 (Irvine Spectrum Center)	949	DUs	31,814	GPD	36	AFY
Focus Area 3 – Great Park Neighborhood Transit Village						
51 (Great Park)	5252	DUs	15,924	GPD	18	AFY
TOTAL	**46,859**	**DUs**	**1,868,137**	**GPD**	**2,093**	**AFY**

As shown above, it is projected that these land use changes within the Focus Areas will produce an estimated water demand increase of 2,093 AFY (1,868,137 GPD). See Figure 5 for a summary of the GPU's proposed water demands and Appendix A to review details regarding the methodology of the existing, proposed, and net change water demand calculations.

Planning Area	Proposed Residential (DUs)	Net Change (Proposed-Existing)	
		Net Change (GPD)	Net Change (AFY)
Focus Area 1 – Greater Irvine Business Complex Area			
19 (Rancho San Joaquin)	2,202 DUs	140,963 GPD	158 AFY
36 (Irvine Business Complex)	12,798 DUs	819,277 GPD	918 AFY

Planning Area	Proposed Residential (DUs)	Net Change (Proposed-Existing)	
		Net Change (GPD)	Net Change (AFY)
Focus Area 3 – Great Park Neighborhood Transit Village			
51 (Great Park)	5252 DUs	15,924 GPD	18 AFY

Planning Area	Proposed Residential (DUs)	Net Change (Proposed-Existing)	
		Net Change (GPD)	Net Change (AFY)
Focus Area 2 – Greater Spectrum Area			
12 (Oak Creek)	4,907 DUs	164,502 GPD	184 AFY
31 (Irvine Spectrum 6)	2,934 DUs	98,359 GPD	110 AFY
32 (Irvine Spectrum 3)	17,817 DUs	597,297 GPD	669 AFY
33 (Irvine Spectrum Center)	949 DUs	31,814 GPD	36 AFY

City Boundary
Sphere of Influence
Focus Area 1
Focus Area 2
Focus Area 3

Drinking Water
Irvine Ranch Water District
Laguna Beach County Water District
Metropolitan Water District
Municipal Water District of OC
Tri-Cities Water District

City of Irvine Proposed Water Demands

Figure 5

2/29/2024

FUSCOE ENGINEERING
FULL CIRCLE THINKING

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1 inch = 7,000 feet

0 7,000 14,000 Feet

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2.4 WATER SUPPLY

IRWD's water supply system includes local groundwater and surface water supplies (56% of total), recycled water (28% of total), and imported water from the Municipal Water District of Orange County (MWDOC) (16% of total). MWDOC is a wholesale importer and member agency of the Metropolitan Water District (MWD) and is entitled to receive water from the available sources of MWD including Colorado River and Northern California surface water. IRWD also has contracts with Kern County to store up to 126,000 AF of groundwater storage and extract up to 28,750 AF per year during dry years[5]. These water resources are described in more detail below.

LOCAL GROUNDWATER

The City and its SOI is located within the Coastal Plain of Orange County groundwater basin also known as Basin 8-1. Under the Sustainable Groundwater Management Act (SGMA), the Basin 8-1 is a classified as a medium priority basin, due to heavy reliance on the Basin's groundwater as a source of water supply[6]. The IRWD's local surface water supplies are the drainage tributary areas to the Irvine Lake and Harding Canyon Reservoir. On average, about 4,000 AFY are captured for IRWD's demands. Water supplies available from the Harding Canyon are often limited due to dry-weather conditions. Recycled water meets about 33% of IRWD's (non-potable; agricultural irrigation, landscape, golf course, commercial, and industrial uses) water demands. In 2020, approximately 24,626 AF of wastewater was recycled within the service area from the Michelson Water Recycling Plant (MWRP) and Los Alisos Water Recycling Plant (LAWRP) (Table 6-3, UWMP, 2020). In the case there isn't sufficient supplies of treated wastewater for use from the MWRP and LAWRP, supplemental untreated imported water can be used.

There are minimal stormwater recovery systems. IRWD captures dry weather runoff via Peter's Canyon Channel Water Capture and Reuse project (three intersections in the channel are used to capture and send dry-weather runoff to Orange County Sanitation District (OCSD) for treatment and eventual recharge into groundwater sources). There are currently no commitments for purchase of desalination water by IRWD.

SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA)

The SGMA addresses the sustainable management of groundwater in California. This legislation is the result of severe water shortages in California, long-term issues with land subsidence, and overdrafting of groundwater aquifers. Department of Water Resources (DWR) identified the status of water basins by overdraft and priority levels (e.g., very low, low, medium, or high). While the Orange County Water District's (OCWD) water basin is not in overdraft, OCWD prepared a groundwater management plans[7] to further long-term groundwater sustainability. The plan describes basin hydrogeology, water supply monitoring, management and operation of recharge facilities,

[5] Irvine Ranch Water District, 2020 Urban Water Management Plan
[6] California Department of Water Resources, SGMA Basin Prioritization Board, Accessed March 2024. Found here: https://gis.water.ca.gov/app/bp-dashboard/final/# .
[7] Orange County Water District, 2015. Groundwater Management Plan. Found here: https://www.ocwd.com/wp-content/uploads/groundwatermanagementplan2015update_20150624.pdf

groundwater replenishment system, seawater intrusion and barrier management, and water quality protection.

IMPORTED WATER

As previously, noted, (MWDOC) is the wholesale water supplier that serves all of Orange County through 27 retail water agencies including IRWD. Local water supplies meet more than half of Orange County's total water demand. To meet the remaining demand, MWDOC purchases imported water- from the Colorado River and from the State Water Project in the north- through the Metropolitan Water District of Southern California and distributes this water to its 27 member agencies. IRWD utilizes imported water to meet its water needs. Supplies from the Colorado River and the State Water Project are treated at Metropolitan's Diemer Filtration Plant, which receives a blend of Colorado River water from Lake Matthews and this treated water is delivered to the City through pipelines owned by IRWD. IRWD also purchases untreated or non-potable imported water to meet certain agricultural and irrigation demands, as well as to supplement the recycled water system during peak months. This untreated water is supplied through the Baker Pipeline, which serves the Baker Water Treatment Plant. Additionally, IRWD receives untreated Colorado River water through the OC-33 turnout connection.

RECYCLED WATER

Water recycling is an essential part of IRWD's water supply portfolio, as it reduces the demand for high-quality potable drinking water. IRWD's recycled water program began with the focus of providing tertiary treated Title 22 recycled water to serve agriculture. Today, new developments must install dual plumbing that allows recycled water to be used for landscaping, toilets, and other uses not requiring potable water. IRWD recycled water serves many state approved uses, including landscape irrigation, toilet flushing, cooling towers, industrial processes, composting, grading, and compaction.

IRWD maintains an extensive infrastructure system for recycled water. This includes a recycled water pipeline system that includes more than 500 miles of dual distribution pipelines. Water is recycled at the Michelson Water Recycling Plant (MWRP) and Los Alisos Water Recycling Plant (LAWRP). The MWRP has a permitted tertiary treatment capacity of 28 mgd and recycles 90 percent of the plant's sewage inflow. To support the over 5,400 recycled water users, IRWD has 15 reservoirs with a storage capacity of 4,536 acre-feet of recycled water.

WATER SUPPLY PROJECTIONS

As of 2020, IRWDs potable and non-potable water supply system consisted of the sources and quantities listed below in Table 7.

Table 7 IRWD Projected Water Supply

Water Supply	Existing & Projected Water Supply (AFY)				
	2020	2025	2030	2035	2040
MWD – Potable Purchased or Imported Water	12,861	51,027	51,027	51,027	51,027
MWD – Non-Potable Purchased or Imported	1,168	17,347	17,347	17,347	17,347
Surface Water	6,600	3,048	3,048	3,048	3,048
Potable Groundwater	37,990	49,480	49,480	49,480	49,480
Non-Potable Groundwater	4,437	3,461	3,461	3,461	3,461
Future Potable Water - Groundwater	-	12,352	12,352	12,352	12,352
MWRP & LAWRP – Recycled Water	24,627	42,012	42,012	42,012	42,012
TOTAL	**87,683**	**178,727**	**178,727**	**178,727**	**178,727**

AFY = Acre-Feet Per Year
Source: Irvine Ranch Water District, UWMP "Table 6-8 and 6-9". Found here: https://wuedata.water.ca.gov/public/uwmp_attachments/2761173844/2020%5FUrban%5Fwater%5Fmanagement%5Fplan%5FIRWD%5Fadopted%5Fjune2021.pdf

As shown above the 2020 actual supply totals do not fully encompass the entirety of IRWD's groundwater supply capabilities or its connected delivery capacity through Metropolitan and MWDOC. On the other hand, the planned supply resources for 2025 to 2040 are IRWDs projections for total supply capacities that will be available to IRWD. These planned resources are based on historical groundwater production, planned future supply projects, and data from Metropolitan and MWDOC's 2020 UWMPs. The projections are also representative of data pulled from IRWDs Water Resources Master Plan (WRMP), which indicates reasonably available supplies from 2025 to 2040. Overall IRWD projects to have up to 178,727 AFY of water available from 2020 to 2040.

URBAN WATER MANAGEMENT PLANS

Through Urban Water Management Plan (UWMP) reporting, IRWD uses population growth, climate scenarios, water supplies, water conservation, large development projects and approved specific plans and other factors to estimate future water demand and evaluate the ability to meet this demand through various water supply sources over a 20-year projection. This document is required by the California Water Code and based on the Water Resources Master Plan (WRMP), with certain elements required by the water code. It is updated every five years, and the latest revision was prepared in 2020.

Land Use and Water Resources Planning – IRWD considers future development projects and schedules to determine current and future supply and infrastructure. The planning information for these development projects are either contained in Sub Area Master Plans (SAMPs) or sites are acknowledged by IRWD as potential development areas. IRWDs current 2020 UWMP accounts for various specific and general plan

growth, namely up to 24,107 residential dwelling units and 18 million commercial and industrial square feet throughout its service area. Several of these areas encompass portions of the City's PAs and the GPUs three focus areas.

Although the estimated 24,000 units that IRWD has noted in the 2020 UWMP does not encompass the extensive 56,756 plus units zoned for development in the City's GPU the UWMPs estimates IRWD consistently evaluates potential development areas. Thus, as the GPU progresses development areas will be evaluated for appropriate facility planning as IRWD is made aware of their development schedules.

WATER SUPPLY EVALUATION

Taking the difference between the projected demands shown in Table 3 and projected available supply in Table 7 it is evident that IRWD will have a surplus of water available to its service area. See Table 8 below for a summary of the difference between IRWDs projected supply and demand totals.

Table 8 IRWD Projected Water Supply and Demand Comparison

	Existing & Projected Water Supply (AFY)				
	2020	**2025**	**2030**	**2035**	**2040**
Supply Totals	87,683	178,727	178,727	178,727	178,727
Demand Totals	56,374	67,078	74,060	81,040	88,023
DIFFERENCE (AFY)	**31,309**	**111,649**	**104,667**	**97,687**	**90,704**

AFY = Acre-Feet Per Year

Source: Irvine Ranch Water District, UWMP "Table 4-1, 4-2, 6-8, and 6-9". Found here: https://wuedata.water.ca.gov/public/uwmp_attachments/2761173844/2020%5FUrban%5Fwater%5Fmanagement%5Fplan%5FIRWD%5Fadopted%5Fjune2021.pdf

As shown in the table above IRWD anticipates that it will have a surplus of water supply ranging from 31,909 AF to 111,649 AF when comparing the difference of IRWDs water supply and demand totals. Surplus water is available to all IRWDs service areas, including the City.

In determining the environmental impacts of the City's GPU through a CEQA lens, the projected demands from the addition of the Focus Areas 46,859 residential DUs fall well within IRWDs total water supply projections. In total the Focus Areas account for 81% of the GPUs Conservative Alternative land use plan which calls for up to 57,656 residential DUs. IRWDs robust water supply projections indicate that they are more than capable of accommodating the projected demand increase of 2,093 AFY because of the proposed zoning within the Focus Areas and the entire allotment of residential DU's based on the large supply availability Looking ahead, IRWD is prepared to incorporate these land use changes into the next 2025 UWMP thus ensuring that evolving development aligns with available water resources. Furthermore, water supply assessments (WSAs) will play a pivotal role in managing larger projects from a water supply perspective. These WSAs that are subject to approval by IRWD will serve as a crucial water resource planning tool, that allows the District to track water supply and demands, and thus ensuring water supply reliability as large projects are developed.

The City and IRWD will continue to collaborate on various planning documents, such as the City's GPU, to prepare for future developments, zoning updates, and necessary infrastructure and supply improvements.

2.5 WATER CAPACITY ASSESSMENT

In addition to assuring that there is ample water supplies available to its service area through the UWMP, IRWD utilize several other resources such as a Water Resources Master Plan (WRMP), WSAs, Improvement Districts, and Capital Improvement Plans (CIPs) to monitor, improve, and repair local and regional water infrastructure and supplies.

WATER RESOURCES MASTER PLAN (WRMP)

To effectively manage such a large water system, IRWD developed a comprehensive planning document titled Water Resources Master Plan (WRMP) that identifies existing and future planned water supply sources and demands. The most recent update occurred in 2019. The data within the WRMP is used for hydraulic modeling, the groundwater work plan, assessments of available water supply for specific development projects as required by CWC Section 10910, sub-area master plans and basin pumping projections. As part of the WRMP, the IRWD Capital Program identifies short term and long-term projects needed to maintain future demands while accounting for replacement and maintenance for existing facilities. In addition to the Capital Program, the Financial Plan includes infrastructure repair and replacement funds and identifies how to pay and manage the long-term funding requirements.

WATER SUPPLY ASSESSMENTS/ VERIFICATIONS (WSA)

Since 2002, when the California State Legislature passed SB 610 (Costa) and SB 221 (Kuehl), mandating official water supply assessments and verifications, IRWD has consistently made proactive planning efforts. WSAs play a critical role in closely linking land use planning with water supply reliability. Governed by SB 610, these assessments determine water supply adequacy for a 20-year projection, encompassing existing and planned future uses like agriculture and manufacturing. They are obligatory for projects proposing commercial development exceeding 250,000 square feet or retail centers exceeding 500,000 square feet. Additionally, under SB 221, before a city or county approves of residential subdivisions with 500 or more units, IRWD must provide written verification of sufficient water supply. This verification is prepared before final subdivision map adoption and ensures adequate water supply availability before construction commences[8].

POTABLE WATER SYSTEM IMPROVEMENT DISTRICTS

IRWD manages water system improvements, maintenance, water connection fees and other aspects of the system through Potable Water System Improvement Districts. There are approximately eight Improvement Districts related to potable water and as maintenance needs or upgrades are required per District, the costs are spread out

[8] Irvine Ranch Water District, Water Supply Assessments. Accessed March 2024. Found here: https://www.irwd.com/doing-business/water-supply-assessments

among the users within those Districts. If a development project will result in an impact beyond one District area, the Developer will be responsible for paying fees to support the improvements in all affected District areas. The costs of new capital facilities are shared equally been connection fees paid by developers and property taxes paid by property owners. The specific fees and taxes may differ between the Districts dependent upon the existing and future capacity of the water system and the maintenance requirements in each District[9].

2.5.1 WATER CAPITAL IMPROVEMENT PLANS

Stakeholders involved in managing water capital improvement projects employ various strategies to ensure effective oversight and maintenance of the water system. As part of the oversight and maintenance of the City's water system, IRWD and OCWD both prepare Capital Improvement Project budgets tailored to their specific objectives. IRWD focuses on infrastructure repairs and new facilities to enhance water delivery across its service area, while OCWD emphasizes basin production and water quality improvement. See Table 9 below for a description of some ongoing and planned CIPs.

[9] Irvine Ranch Water District, Rules And Regulations For Water, Sewer, Recycled Water, And Natural Treatment System Service. December 2019. Found here: https://www.irwd.com/images/pdf/doing-business/engineering/2019/___Rules_and_Regs_APPROVED_20191216_FINAL.pdf

Table 9 Water System Capital Improvement Plans

Project Name	CIP Fiscal Year	Project Summary
IRWD – Recycled Water Financial Incentives[1]	On-Going	IRWD grants or loan funds to pay for on-site improvements for recycled water use. Is expected to increase recycled water use by 200 AF.
IRWD - Dual Plumbed Buildings[1]	On-Going	Work with customers to dual plumb new and existing commercial buildings.
IRWD - Conversion Projects[1]	On-Going	Where possible establish new infrastructure for recycled water supplies. Is expected to increase recycled water use by 1,000 AF
IRWD - Syphon Reservoir Improvement Project[1]	On-Going	Increase recycled water storage capacity by 4,500 AF at the Syphon Reservoir.
IRWD - Central Orange County Water Supply and Water Quality Improvement Project[1]	FY 22-23	Utilize existing flood control basins for groundwater recharge and water quality improvement to increase water supply.
North/Central Orange County Irrigation Efficiency, Runoff Reduction, and Pollution Prevention Program[2]	FY 22-23	Rebate program promotes water-efficient landscaping and irrigation upgrades.
Making Conservation an Orange County Way of Life[2]	FY 22-23	Project includes changing 14 acres of grass, smart controllers, and indoor water-saving measures.
OCPW - Irvine Regional Park - Irrigation Pump House Transformer & Feeder Wiring-Replacement[3]	FY 21-28	The project consists of removal of the old automatic booster pump controls, development, and installation of new automatic controls.

Sources
1. Irvine Ranch Water District, 2020 Urban Water Management Plan
2. North Orange County Integrated Regional Water Management, Current Projects. Accessed March 2024. Found here: https://www.northocirwm.org/pages/projects
3. OC Public Works and OC Community Resources Seven Year Capital Improvement Program FY 2021-22 to 2027-28. Found here: https://ocpublicworks.com/ocpw/capital-improvement-program

As shown above IRWD and OCWD are continually exploring water reliability CIPs to secure the Districts infrastructure reliability and future water supply.

2.6 PROPOSED LAND USE AND CEQA THRESHOLD ANALYSIS

The following question regarding Utilities and Service Systems are identified in the CEQA Checklist related to water.

Would the Project:

A. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Should the answer to this prove to be a potentially significant impact, mitigation measures would be required to reduce those impacts to a less-than-significant threshold. The following impact assessments are based on the significance criteria established earlier in the section.

Impact A: Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Impact Analysis: Implementation of proposed land uses within the Focus Areas will have the potential for water demands to increase in the range of 1.87 MGD or 2,093 AFY over existing conditions. Implementation of projects consistent with the land use will require the construction of new water infrastructure where existing water lines are not sufficient to accommodate the increased supply demands. These determinations will be made on a project-by-project basis including site specific fire flow tests and hydraulic pressure analyses. The proposed improvements may include upsizing water lines on-site and off-site and additions of boosters in low pressure areas. In those conditions, where hydraulic or capacity impacts affect other service areas within the Improvement District, the developer is responsible for paying for the impacts through their connection fees. In addition, the 2025 UWMPs will be required to incorporate the proposed land use changes into their water demand and supply projections out to 2050.

The construction of the on-site and off-site water lines and associated improvements will primarily include trenching for the pipelines. All construction will be performed in accordance with the Construction General Permit and all associated requirements. Any work that may affect services to the existing water lines will be coordinated with the City and IRWD. When considering impacts resulting from the installation of any required water infrastructure, all impacts are of a relatively short-term duration and would cease to occur once the installation is complete. Therefore, Project impacts on water associated with construction activities would be less than significant.

3. SEWER

3.1 SEWER SYSTEM ENVIRONMENTAL SETTING & INFRASTRUCTURE

IRVINE RANCH WATER DISTRICT (IRWD)

IRWD owns and operates a complex sewer collection system that stretches 963 miles to serve its current and future customers. The sewer system and drainage are defined by the physical geography of the San Diego Creek and Peters Canyon Wash/Channel. IRWD is bounded on the northeast by the Santa Ana Mountains and on the south by the San Joaquin Hills. As a result of these dominant drainage features, IRWD's sewer system flows generally from northeast to southwest. The majority of the IRWD sewer system serves the City of Irvine although there are some additional service areas that fall outside the City including portions of Lake Forest, Newport Beach, Costa Mesa, and Orange.

As of 2018[10] there are twenty-three sewage lift stations and twelve are considered major facilities. IRWD operates and maintains 1,100 miles of sanitary sewer mains and 12 miles of force mains spanning 181 square miles (84,000 acres) of service area in Orange County. The wastewater collection system serves the City of Irvine, Lake Forest, parts of Tustin, Newport Beach, Foothill Ranch, Costa Mesa, and unincorporated areas of Orange County. There is a small amount of wastewater generated in Newport Beach and the City that is collected by trunk sewers owned, operated, and maintained by the IRWD, then discharged into sewers owned and maintained by the Orange County Sanitation District (OCSD). The system also includes nineteen siphons which are used to convey wastewater flows under man-made and natural obstructions, and seven diversion structures to divert or split the upstream flows into two separate downstream pipelines. The collection is comprised of primarily vitrified clay pipe (VCP) and polyvinyl chloride (PVC) sewer mains that range from 4 to 60 inches in addition to 32 trunk lines that are the most critical components of the sewer collection system. The ultimate destination of wastewater collected in IRWD's system include the Michelson Water Reclamation Plant (WRP), the Los Alisos WRP or treatment plants.

***Michelson Water Reclamation Plant* (WRP)** - The Michelson Water Recycling Plant (MWRP) serves as a pivotal component of IRWDs wastewater treatment infrastructure. Established in 1967, MWRP initially catered to agricultural users, delivering about 2 million gallons per day (MGD) of tertiary-treated recycled water. Over the years, MWRP has undergone substantial expansions to keep pace with the growing demands of IRWD's service area. By 2008, its capacity had expanded to 18 mgd, supplying recycled water for various non-potable uses. Recently, in response to increasing demand, the plant's capacity was further expanded to 28 mgd, with projections indicating a need for 32.6 mgd at final build-out[11].

[10] Irvine Ranch Water District, Sewer System Management Plan, June 2018. Found here: https://www.irwd.com/images/pdf/water-sewer/irwd_sewer_system_management_plan.pdf
[11] [11] Irvine Ranch Water District, Michelson Water Recycling Plant. Accessed March 2024. Found here: https://www.irwd.com/construction/michelson-water-recycling-plant

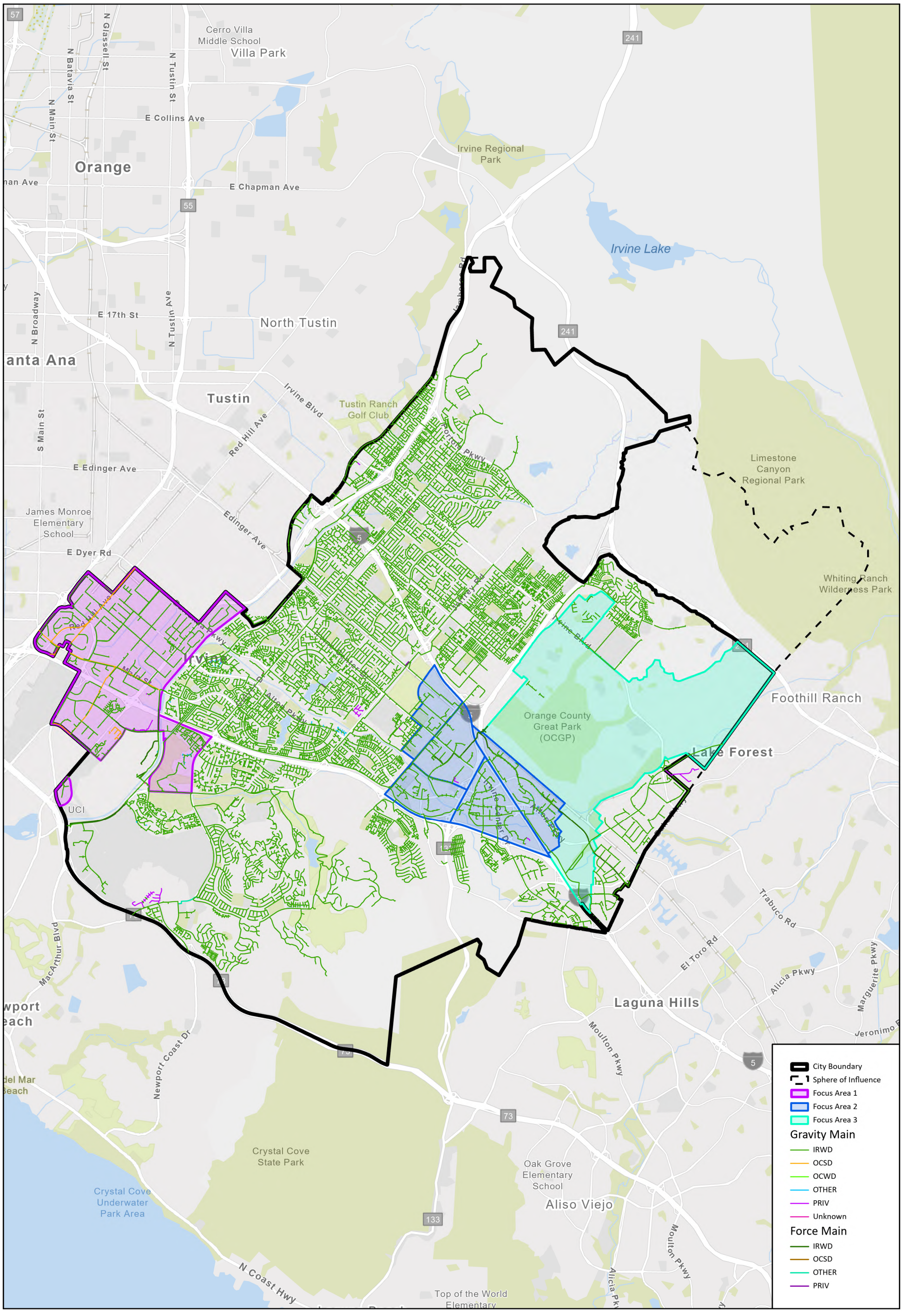
Los Alisos Water Reclamation Plant (WRP) - The Los Alisos Water Recycling Plant (LAWRP) stands as another critical component of IRWD's wastewater treatment infrastructure, serving the City of Lake Forest and surrounding areas. Operating since 1964, LAWPR has witnessed several upgrades to incorporate advancements in recycling technology, enhancing efficiency and cost-effectiveness. Recent upgrades in 2007 introduced a new disinfection facility, pumping station, sodium hypochlorite building, and pipeline enhancements, elevating the plant's recycled water production capacity to 7.5 mgd. LAWPR's treatment process involves multiple steps, including preliminary treatment, biological treatment in five ponds, coagulation, flocculation, clarification, filtration, and sodium hypochlorite disinfection. These treatment measures ensure the production of tertiary recycled water is suitable for various non-potable uses, such as irrigation for parks, golf courses, and residential yards, as well as industrial applications and manufacturing processes[12].

ORANGE COUNTY SANITATION DISTRICT, DISTRICT NO. 5 (OCSD)

Orange County Sanitation District (OCSD) plays a crucial role in the sewage collection, treatment, and disposal processes within IRWD's service area. While IRWD collects and treats most of the sewage generated within its service area, a small percentage is handled by OCSD. OCSD operates treatment facilities that treat sewage to high-quality standards, meeting the water quality requirements for recycled water use. IRWD collaborates with OCSD to ensure backup sewage treatment capacity and disposal as needed, maintaining a connection for further treatment and eventual ocean discharge. Additionally, IRWD diverts some sewage to OCSD for treatment. This partnership with OCSD ensures efficient sewage management and supports IRWD's efforts to meet water quality standards and address wastewater treatment needs within its service area. See Figure 6 for a map of existing sewer infrastructure within the City.

Plant No. 1 – The Orange County Sanitation District (OCSD) operates several treatment facilities, including Plant No. 1, which treats wastewater from IRWD's Revenue Area 14 (RA 14) and other areas. Plant No. 1, 2021-2022 estimated average daily flows are 120 MGD, out of the treatment facilities treatment capacity of – MGD. OCSD's treatment facilities play a critical role in processing wastewater from various regions, ensuring compliance with regulatory standards, and protecting public health and the environment. While MWRP and LAWPR focus on producing recycled water, OCSD's facilities are integral to the broader wastewater treatment network, serving a larger geographical area and handling diverse types of wastewater flows. Together, these treatment plants and facilities contribute significantly to water management efforts in the region, promoting environmental sustainability, and resource conservation[13].

[12] Irvine Ranch Water District, Los Alisos Recycling Plant. Accessed March 2024. Found here: https://www.irwd.com/construction/los-alisos-recycled-water-plant
[13] Orange County Sanitation District Facilities Master Plan 2017. Found here: https://www.ocsan.gov/home/showpublisheddocument/29611/637230561850600000



Existing Sewer System Facilities Within the City of Irvine

Figure 6

3/13/2024

FUSCOE ENGINEERING
FULL CIRCLE THINKING

N

1 inch = 7,000 feet

0 7,000 14,000 Feet

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3.2 EXISTING SEWER FLOWS

REGIONAL

Wastewater in the City travels through IRWD's collection system to the Michelson Water Reclamation Plant, where it is treated through the reclamation process for use in landscaping, agricultural irrigation, and other non-potable water uses. However, the Irvine Business Complex is serviced by the IRWD collection system and the majority of the IBC area (primarily western area) discharges into trunk sewers owned and maintained by the Orange County Sanitation District (OCSD). This area of the IBC falls within OCSD tributary zone No. 7. A smaller portion of the IBC (eastern area) is treated by the Michelson Water Reclamation Plant. . See Table 10 for an estimate of the District's indoor sewer generation for 2020.

Table 10 IRWD Wastewater Collection 2020

Wastewater Collection Agency	Volume Metered or Estimated?	Volume Collected (AF)	Receiving Agency	Treatment Plant	Located within IRWD Service Area?
IRWD[1]	Metered	22,575	IRWD	MWRP	Yes
IRWD	Metered	3,760	IRWD	LAWRP[2]	Yes
OCSD	Metered	7,568	OCSD	OCSD	Yes
IRWD	Estimated	112	SMWD	Chiquita Water Reclamation Plant	No
TOTAL		**34,015 AF**			

Source: Irvine Ranch Water District 2020 Urban Water Management Plan – Table 6-2 Retail: Wastewater Collected Within Service Area in 2020
1. Includes 1.09 MGD from outside service area 7 (SA-7).
2. Includes English Canyon flows (outside UWMP service area).
3. SMWD – Santa Margarita Water District

As seen in the table above, the District estimates that in 2020 the volume of wastewater collected and treated by the IRWD, OCSD, and the Santa Margarita Water District (SMWD) was 34,015 AF. Overall, IRWDs system is very highly managed and is in relatively "young health" by sewer system standards. In addition, when specific plans or major projects are processed (over 400 residential units or equivalent mixed-use projects with similar sewer demands), IRWD requires subarea master plans that identify projected water and sewer demands, required sewer and water infrastructure, and conformance with the sewer collection system master plan. This process enables IRWD to manage the sewer and water systems in a comprehensive manner.

LOCAL

Under the proposed land use condition, the GPU will increase the number of residential units by 57,656 residential DUs. Based on IRWDs 2017 Sewer Collection System Master Plan (SCSMP), City specific sewer generation factors were utilized. For further details on

the existing land use evaluation for water demands within the Focus Areas see Table 11 below and Appendix B for notes on how these calculations were derived.

Table 11 Existing Land Use Evaluation for Sewer Demands

Planning Area	Proposed Residential (DUs)	Density/ Acre	Acres of Residential Development	City of Irvine Land Use Category	Estimated Existing Sewer Flows							
					IRWD Land Use Category	IRWD Sewer Flow Factor Converted to (GPD/Acre)					Existing Sewer Flows (GPD)	Existing Sewer Flows (AFY)
Focus Area 1 – Greater Irvine Business Complex Area												
19 (Rancho San Joaquin)	2,202 DUs	50 DUs/ Acre	44 Acres	IBC Multi-Use	Light Industrial	60 GPD/ KSF	43,560 SF/ Acre	2,614 GPD/ Acre			115,103 GPD	129 AFY
36 (Irvine Business Complex)	12,798 DUs		256 Acres								668,977 GPD	749 AFY
Focus Area 2 – Greater Spectrum Area												
12 (Oak Creek)	4,907 DUs	50 DUs/ Acre	98 Acres	General Industrial & Medical and Science	Industrial - Light & Regional Commercial	60 GPD/ KSF	43,560 SF/ Acre	4,138 GPD/ Acre			406,123 GPD	455 AFY
31 (Irvine Spectrum 6)	2,934 DUs		59 Acres								242,830 GPD	272 AFY
32 (Irvine Spectrum 3)	17,817 DUs		356 Acres			130 GPD/ KSF					1,474,606 GPD	1,652 AFY
33 (Irvine Spectrum Center)	949 DUs		19 Acres								78,543 GPD	88 AFY
Focus Area 3 – Great Park Neighborhood Transit Village												
51 (Great Park)	5252 DUs	50 DUs/ Acre	105 Acres	Trails and Transit Oriented Development	Regional Commercial	130 GPD/ KSF	43,560 SF/ Acre	5,663 GPD/ Acre			594,821 GPD	666 AFY
TOTAL	**46,859 DUs**		**937 Acres**		**ESTIMATED EXISTING WATER DEMAND**						**3,581,002 GPD**	**4,011 AFY**

AFY = Acre-Feet Per Year, DU = Dwelling Unit, KSF = thousand square feet, GPD = Gallons Per Day, SF = Square-Feet

As shown in the table above it is anticipated that existing land uses within the Focus Areas generates approximately 4,011 AFY or 3,581,002 GPD in sewer flows. To understand how these sewer flows were generated please refer to the section below.

3.3 PROPOSED SEWER FLOWS

METHODOLOGY

As mentioned in the water demand methodology, in the process of developing existing and proposed sewer flows it was noted that the locations of the potential residential units were not readily available to provide a comparison in sewer flows from the existing land uses to the proposed residential conversions. Without being able to specifically compare an existing condition location and sewer flows with a proposed residential location and sewer flows, a practical approach was taken. Namely, the primary focus of the City's Housing Element and the Conservative Alternative Plan is intensified residential growth with an average of up to 50 DUs / Acre. This residential density was applied within the Focus Areas to determine an estimated acreage of residential development within each area.

After determining the acres of residential development, existing sewer flows were created by identifying the predominant existing land uses and zoning designations within each Focus Area. As noted in Table 1 each focus area consists largely of one zoning designation with Focus Area 1 being IBC Multi-Use, Focus Area 2 General Industrial & Medical and Science, and Focus Area 3 Trails and Transit Oriented Development. These primary zoning designations within each Focus Area was then matched to IRWD's water use factors, expressed in (gpd/ksf). These factors were then converted to acreages to establish a sewer flow factor in gallons per day per acre (gpd/acre). This factor was then applied to each Focus Areas respective acres of residential development to evaluate existing sewer flows in the area.

While this approach simplifies the calculation process and provides a reasonable estimate of existing sewer flows, it should be noted that it may not capture the full complexity of existing land use patterns and sewer generation. Different land use categories such as commercial, industrial, or open space, may have varying sewer flow profiles when compared to residential areas. However, due to the lack of detailed data on existing land uses, this approach is necessary to proceed with the analysis and determine the impacts on sewer flows and sewer infrastructure from an existing to proposed condition. By applying the average density of dwellings units per acre to the existing land use area, it allows for a consistent basis of comparison between existing and proposed sewer flows. It provides a practical way to assess the potential impacts of proposed zoning changes on sewer flows within the City's Focus Areas of growth.

Similar to the existing land use evaluation methodology the proposed sewer flow calculations also utilizes the acreages of residential development to generate proposed flows within the Focus Areas. To generate a sewer flow factor the average density of 50 DUs/ Acre was matched to IRWDs sewer flow factor for high rise density units in Irvine. IRWD categorizes high rise density land uses as any development with a density of 40.0 DUs/Acre or more. Sewer flows associated with these high-rise density developments is 120 GPD/DU and this water factor was then converted to GPD/ Acres by applying the Housing Elements projected average density of 50 DUs/ Acre to it which results in a demand of 6,000 GPD/ Acre. Refer to Table 12 for the estimated sewer flows generated from each Focus Areas of the residential development.

Table 12 Proposed Land Use Evaluation for Sewer Demands

Planning Area	Proposed Residential (DUs)	Density/ Acre	Acres of Residential Development	City of Irvine Land Use Category	Estimated Proposed Sewer Flows									
					IRWD Land Use Category	IRWD Sewer Flow Factor Converted to (GPD/Acre)						Proposed Sewer Flows (GPD)		Proposed Sewer Flows (AFY)
Focus Area 1 – Greater Irvine Business Complex Area														
19 (Rancho San Joaquin)	2,202 DUs	50 DUs/ Acre	44 Acres	IBC Multi-Use	High Rise Density - Irvine	120 GPD/ DU	50 DU/ Acre	6,000 GPD/ Acre				264,240 GPD		296 AFY
36 (Irvine Business Complex)	12,798 DUs		256 Acres									1,535,760 GPD		1,720 AFY
Focus Area 2 – Greater Spectrum Area														
12 (Oak Creek)	4,907 DUs		98 Acres									588,840 GPD		660 AFY
31 (Irvine Spectrum 6)	2,934 DUs	50 DUs/ Acre	59 Acres	General Industrial & Medical and Science	High Rise Density - Irvine	120 GPD/ DU	50 DU/ Acre	6,000 GPD/ Acre				352,080 GPD		394 AFY
32 (Irvine Spectrum 3)	17,817 DUs		356 Acres									2,138,040 GPD		2,395 AFY
33 (Irvine Spectrum Center)	949 DUs		19 Acres									113,880 GPD		128 AFY
Focus Area 3 – Great Park Neighborhood Transit Village														
51 (Great Park)	5252 DUs	50 DUs/ Acre	105 Acres	Trails and Transit Oriented Development	High Rise Density - Irvine	120 GPD/ DU	50 DU/ Acre	6,000 GPD/ Acre				630,240 GPD		706 AFY
TOTAL	**46,859 DUs**		**937 Acres**								**ESTIMATED PROPOSED WATER DEMAND**	**5,623,080 GPD**		**6,299 AFY**

AFY = Acre-Feet Per Year, DU = Dwelling Unit, KSF = thousand square feet, GPD = Gallons Per Day, SF = Square-Feet

As shown above in Table 12 under the proposed Conservative Alternative land use plan/Proposed Project, the GPU will potentially increase the number of residential units by 57,656 DUs or 46,859 DUs (81% of all units) within the Focus Areas. This increase in units has the potential to generate sewer flows up to 6,299 AFY or 5,623,080 GPD within the three Focus Areas. See Appendix B for a table of the sewer flow calculations and IRWDs sewer flow factors.

The difference between the sewer flows calculated in Table 11 and Table 12 are representative of the net change in wastewater generation for the areas of residential development. See Table 13 below for more details.

Table 13 Net Change (Existing to Proposed) Land Use Evaluation for Sewer Flows

Planning Area	Proposed Residential (DUs)		Net Change (Proposed-Existing)			
			Net Change (GPD)		Net Change (AFY)	
Focus Area 1 – Greater Irvine Business Complex Area						
19 (Rancho San Joaquin)	2,202	DUs	149,137	GPD	167	AFY
36 (Irvine Business Complex)	12,798	DUs	866,783	GPD	971	AFY
Focus Area 2 – Greater Spectrum Area						
12 (Oak Creek)	4,907	DUs	182,717	GPD	205	AFY
31 (Irvine Spectrum 6)	2,934	DUs	109,250	GPD	122	AFY
32 (Irvine Spectrum 3)	17,817	DUs	663,434	GPD	743	AFY
33 (Irvine Spectrum Center)	949	DUs	35,337	GPD	40	AFY
Focus Area 3 – Great Park Neighborhood Transit Village						
51 (Great Park)	5252	DUs	35,419	GPD	40	AFY
TOTAL	**46,859**	**DUs**	**2,042,078**	**GPD**	**2,287**	**AFY**

As shown above, it is projected that these land use changes within the Focus Areas will produce an estimated sewer flow increase of 2,287 AFY (2,042,078GPD). See Figure 7 for a summary of the GPUs proposed sewer flows and Appendix B to review details regarding the methodology of the existing, proposed, and net change sewer flow calculations.

Planning Area	Proposed Residential (DUs)		Net Change (Proposed-Existing) Net Change (GPD)		Net Change (Proposed-Existing) Net Change (AFY)	
Focus Area 1 – Greater Irvine Business Complex Area						
19 (Rancho San Joaquin)	2,202	DUs	149,137	GPD	167	AFY
36 (Irvine Business Complex)	12,798	DUs	866,783	GPD	971	AFY

Planning Area	Proposed Residential (DUs)		Net Change (Proposed-Existing) Net Change (GPD)		Net Change (Proposed-Existing) Net Change (AFY)	
Focus Area 3 – Great Park Neighborhood Transit Village						
51 (Great Park)	5252	DUs	35,419	GPD	40	AFY

Planning Area	Proposed Residential (DUs)		Net Change (Proposed-Existing) Net Change (GPD)		Net Change (Proposed-Existing) Net Change (AFY)	
Focus Area 2 – Greater Spectrum Area						
12 (Oak Creek)	4,907	DUs	182,717	GPD	205	AFY
31 (Irvine Spectrum 6)	2,934	DUs	109,250	GPD	122	AFY
32 (Irvine Spectrum 3)	17,817	DUs	663,434	GPD	743	AFY
33 (Irvine Spectrum Center)	949	DUs	35,337	GPD	40	AFY

City Boundary
Sphere of Influence
Focus Area 1
Focus Area 2
Focus Area 3

Gravity Main
IRWD
OCSD
OCWD
OTHER
PRIV
Unknown

Force Main
IRWD
OCSD
OTHER
PRIV

City of Irvine Proposed Sewer Flows

Figure 7

2/29/2024

FUSCOE ENGINEERING
FULL CIRCLE THINKING

N

1 inch = 7,000 feet

0 7,000 14,000 Feet

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3.4 SEWER CAPACITY ASSESSMENT

In addition to assuring that there are ample water supplies available to its service area through the SCSMP, IRWD utilize several other resources such as Sewer System Management Plan, Sub-Area Master Plans (SAMPs), Improvement Districts, and Capital Improvement Plans (CIPs) to monitor, improve, and repair local and regional sewer infrastructure.

IRWD SEWER COLLECTION SYSTEM MASTER PLAN (SCSMP)

To assure continuous high levels of customer service, a hydraulic model prepared for the Sewer Collection System Master Plan[14] was used to evaluate the hydraulic capacity required for the predicted 2010-2025 IRWD customer base. A capacity analysis was conducted across the piping system to determine the depth of flow as compared to the diameter of pipe (d/D).

The results highlighted 21 areas that exceeded current design criteria with 11 areas at a medium/high priority level. Recommendations were indicated to address the capacity deficiencies. It is noted that the largest, most severe and earliest occurring deficiencies should have the highest priority for action. The Capital Improvement Plan includes nine potential projects necessary to meet long term growth that is predicted to occur within the District.

IRWD SEWER SYSTEM MANAGEMENT PLAN (SSMP)

In addition, IRWD prepared an updated 2018 Sewer System Management Plan as part of the separate State Water Resources Control Board requirements. The SSMP identifies that since the development of the 2006 Sewer Collection System Master Plan, several of the high-priority deficiency projects have been implemented and several other projects have been put under a more detailed analysis The SSMP serves as a separate guidance document that covers operations and maintenance, design and performance provisions, overflow emergency response plans, Fats Oils and Grease (FOG) Program, system evaluation and capacity assurance plan, monitoring, and measurement and program modifications. The periodic update of this document ensures the entire system is being operated and maintained and is continually being upgraded for future conditions[15].

SEWER SYSTEM DISTRICT IMPROVEMENT AREAS

IRWD manages sewer system improvements, maintenance, sewer connection fees and other aspects of the system through Sewer System Improvement Districts. There are approximately eight Improvement Districts related to sewer generation and flows and as maintenance needs or upgrades are required per District, the costs are spread out among the users within those Districts. If a development project will result in an impact beyond one District area, the Developer will be responsible for paying fees to support

[14] Irvine Ranch Water District, Sewer System Collections Master Plan. March 2017. Found here: https://www.irwd.com/images/pdf/water-sewer/irwd_sewer_system_management_plan_appendices.pdf
[15] Irvine Ranch Water District, Sewer System Management Plan. June 2018. Found here: https://www.irwd.com/images/pdf/water-sewer/irwd_sewer_system_management_plan.pdf

the improvements in all affected District areas. The costs of new capital facilities are shared equally been connection fees paid by developers and property taxes paid by property owners. The specific fees and taxes may differ between the Districts dependent upon the existing and future capacity of the sewer system and the maintenance requirements in each District[16].

SUB-AREA MASTER PLANS (SAMPS)

Sub-Area Master Plans (SAMPs) serve as crucial studies conducted by IRWD to plan for sewer facilities in specific development areas or proposals. Typically initiated after developers present specific development plans, SAMPs refine general plan land uses and provide insights into phasing information. These plans include descriptions and mappings of proposed sewer systems, calculations of expected wastewater generation, and analyses of the new development's impact on existing sewer systems. Utilizing available SAMP reports and models, future system facilities are developed for hydraulic modeling. The SAMP hydraulic models, constructed with detailed tract map information, ensures that sewer flow loadings are appropriately applied. IRWD ensures that future gravity mains follow design criteria in the SAMP reports.

ORANGE COUNTY SANITATION DISTRICT MASTER PLAN UPDATE

OCSD, in coordination with Woodard & Curran, prepared an update to its Master Plan in December 2019. The purpose of this Update Report was to evaluate collections system capacity throughout the OCSD service area. A new model was developed to replace the previous 2006 model, based on Center for Demographic Research (CDR) population and employment data and growth estimates. The updated capacity assessment was conducted between 2016 and 2017. The 2019 Master Plan update determined a series of trunk line segments that exhibited hydraulic deficiencies or potential hydraulic deficiencies under existing (2017) and buildout (2040) conditions. Hydraulic deficiencies were assessed for both peak dry-weather flow and peak wet-weather flow scenarios. Thus, OCSDs planning division maintains a 20-year CIP comprised of potential future projects. These projects are typically scoped to rehabilitate, upgrade, or replace most of the assets within a sub-area or facility.

3.4.1 SEWER CAPITAL IMPROVEMENTS PLANS

IRWD's SSMP plans for continuous high levels of customer service to accommodate future service demands. As part of this effort, hydraulic capacity models were used to determine the existing capacity and future capacity based on long-term growth projections. Although IRWD has not experienced any capacity-related sewer overflows, several specific capital improvement projects were identified to improve capacity to meet future needs. Since the 2006 study, four of the highest priority deficiency projects have been implemented; the other projects are deferred indefinitely. These remaining projects are being monitored with flow sensors at strategic locations, and IRWD is using real data (not modeled results) to evaluate capacity as compared to future growth in

[16] Irvine Ranch Water District, Rules And Regulations For Water, Sewer, Recycled Water, And Natural Treatment System Service. December 2019. Found here: https://www.irwd.com/images/pdf/doing-business/engineering/2019/___Rules_and_Regs_APPROVED_20191216_FINAL.pdf

these areas. See Table 14 below for a list of CIP projects that OCSD and IRWD are planning to implement throughout the City.

Table 14 Sewer System Capital Improvement Plans

Project Name	CIP Fiscal Year	Project Summary
OCSD – Costa Mesa and Irvine Gisler-Red Hill Interceptor and Baker Force Main Rehabilitation[1]	FY 23-25 In Construction	The project will make repairs to the inside of the pipeline to protect the pipe from corrosion, reducing the risk of a sewage spill and extending the pipeline's life. (Project No. 7-65).
OCSD – Costa Mesa and Irvine Sunflower and Red Hill Interceptor Repair[1]	FY 21-23 In Construction	Repair of the interceptor on sunflower and Red Hill to mitigate risks to wastewater collection, sewer spills, and water quality (Project No. 7-66)
IRWD – Michelson Force Main Rehabilitation Project[2]	FY 22-23 Design	This project will install CIP Pipe Lining on approximately 3,400 LF of force main sewer pipe.
IRWD – Newport Coast Lift Station Rehabilitation Project[2]	FY 22-23 Planning	This project rehabilitates CIP Pipe Lining on approximately 3,000 LF of force main sewer pipe and installs a new portion of epoxy-lined Ductile Iron Pipe that connects the rehabilitated force main to the lift station drywell
IRWD – Sewer Siphon Rehabilitation[2]	FY 22-23 Design	This project uses the results from the Criticality analysis and implements the identified rehabilitation.
IRWD – Sewer System Calcium Removal[2]	On-going	The routine sewer line cleaning and inspections identify areas for calcium removal, this project implements this maintenance task.
IRWD – Sewer Line Repairs[2]	On-going	This project is an on-going annual project put in place for, previously unidentified, sewer repairs.

Sources
1. Orange County Sanitation District. CIP Annual Report for the Fiscal Year 2022-23. Found here: https://online.fliphtml5.com/zecoq/dppx/
2. Irvine Ranch Water District, Sewer System Management Plan, June 2018. Found here: https://www.irwd.com/images/pdf/water-sewer/irwd_sewer_system_management_plan.pdf
3. Irvine Ranch Water District, Engineering And Operations Committee Meeting - EXHIBIT "A" IRWD Upcoming Projects Status Report. May 2022. Found here: https://www.irwd.com/images/pdf/about-us/committee-meetings/engineering-and-operations/2022/5-17-22_Eng_and_Opers_Comm_Pkg.pdf

As shown above, the IRWD and the OCSD are continually exploring sewer reliability CIPs in preparation for increased sewer generation and flows.

3.5 PROPOSED CONDITION AND CEQA THRESHOLD ANALYSIS

The following questions regarding Utilities and Service Systems are identified in the CEQA Checklist related to sewer.

Would the Project:

A. Require or result in the relocation or construction of new or enhanced water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
B. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Should the answers to these environmental factors prove to be a potentially significant impact, mitigation measures would be required to reduce those impacts to a less-than-significant threshold.

Impact A: Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Impact Analysis: Implementation of proposed land uses within the City's GPU will likely require construction of upgrades to new sewer infrastructure where existing sewer lines are not sufficient to accommodate the increased flows. The locations of these sewer improvements will be based on the project-specific locations. These determinations will be made on a project-by-project basis including site specific sewer flow monitoring and hydraulic sewer analysis. All project applicants are required to submit detailed information to IRWD regarding product type, size, number of units or square feet, projected demands (indoor and outdoor), and other project details so impacts on the existing sewer system can be managed properly. In those conditions, where hydraulic or capacity impacts affect other service areas or users within the Improvement District, the developer is responsible for paying for the impacts through their connection fees. When capital projects are identified for regional sewer improvements within the Improvement District, the costs are shared 50/50 between developer connection fees and existing users through property tax assessments.

The construction of the on-site and off-site sewer lines and associated improvements will primarily include trenching for the pipelines. All construction will be performed in accordance with the Construction General Permit and all associated requirements. Any work that may affect services to the existing sewer lines will be coordinated with the City and IRWD. IRWD also has Sewer Improvement Districts which allows the District to assess improvements per Improvement Area and collect fees accordingly. This process ensures that the fees collected are consistent with the improvements needed within the respective District being improved.

Furthermore, a Construction Management Plan or equivalent, which would ensure safe pedestrian access as well as emergency vehicle access and safe vehicle travel in general, will be implemented to reduce any temporary

pedestrian and traffic impacts occurring as a result of construction activities. Moreover, when considering impacts resulting from the installation of any required wastewater infrastructure, all impacts are of a relatively short-term duration and would cease to occur once the installation is complete. Therefore, Project impacts on wastewater associated with construction activities would be less than significant.

Impact B: Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Impact Analysis: The proposed development within the CPUs Focus Areas is expected to result in an increase in sewer flows by approximately 2.04 MGD. However, upon evaluation, this increase falls well within the remaining treatment capacity of the Michelson Water Recycling Plant (MWRP) at Irvine Ranch Water District (IRWD), which currently stands at 28 MGD. The capacity expansion of MWRP through projects like the Phase 2 Expansion in 2014, which added 7 MGD, has ensured that the plant can accommodate additional demand. The MWRP currently operates at an average of 25 MGD, recycling about 9 billion gallons of water annually. When combined with water from the Los Alisos Recycling Plant, the recycled-water operation collectively provides 28% of the water supplied to customers. Additionally, OCSD's Plant No. 1, with a treatment capacity of 320 MGD, remains capable of accommodating the projected increase in sewer flows[17].

[17] Orange County Sanitation District, Headworks Rehabilitation At Plant No. 1 (Project No. P1-105) Draft Initial Study/Mitigated Negative Declaration Prepared By Esa In 2019 Fuscoe Engineering, Inc.. Found here: https://files.ceqanet.opr.ca.gov/250889-2/attachment/ifjoQfEz8SEQuvFlxmB8M8KQd_VUicrvHjdsSc9irHQ5xNsoEXmNDAmTREeHx5tuUufqYMtgLQAt-CO50

4. Storm Drainage and Water Quality

4.1 STORM DRAINAGE ENVIRONMENTAL SETTING & INFRASTRUCTURE

4.1.1 EXISTING DRAINAGE FACILITIES

The local storm drain system within the City of Irvine is owned by the City of Irvine and maintained by the City's Public Works Department. The regional flood control system is owned and maintained by the Orange County Public Works Department (OCPW). Lines typically range in size from 18"- 60" with the local drainage system consisting of the smaller diameter pipes and the larger flood control facilities consisting of trapezoidal channels or riverine systems. Drainage facilities are typically either RCP pipe or box culverts to convey stormwater. Local storm drain facilities are typically designed to accommodate 10- to 25-year flow requirements and the regional County facilities are designed to accommodate from 10-year to up to 100-year storm events. The City conveys stormwater to the Orange County Flood Control District (OCFCD) regional conveyance facilities and has a detailed GIS based inventory of all drainage facilities including storm drainpipes, catch basins, BMPs/filters within catch basins, pump stations, settling basins and outfalls for both public and private properties. See Figure 8 below that shows the existing storm drain system throughout the City and Focus Areas. The City has an ongoing monitoring and maintenance procedure to ensure the overall system functions effectively. To prevent against significant flooding during storm events OCFCD and the City monitors and maintains stormwater pumping stations to ensure they are functioning efficiently.

In addition, the City currently requires individual drainage analyses for new developments and redevelopments to ensure conformity with the entire Citywide drainage system.[18] New developments and significant redevelopments must analyze the 10- to 25-year storm event for onsite areas and determine if there are any impacts to the public storm drain system. The City uses a hybrid approach of ensuring storm drain capacity is maintained and promotes the use of existing features (i.e., parks) and natural treatment systems (IRWD) to serve as detention systems, water quality treatment and infiltration wherever feasible.

See Figure 8 below for the existing storm drain system throughout the City.

[18] City of Irvine, CA, July 28, 2023. Municipal Code (Ord. No. 10-06, § 1, 7-13-10). Found here: https://library.municode.com/ca/irvine/codes/code_of_ordinances?nodeId=TIT6PUWO_DIV8PO_CH3STURRU_S6-8-303COSTURRU

City of Irvine Existing Storm Drain Facilities

Figure 8

2/29/2024

FUSCOE ENGINEERING
FULL CIRCLE THINKING

N

1 inch = 7,000 feet

0 7,000 14,000 Feet

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4.1.2 WATERSHED SETTING

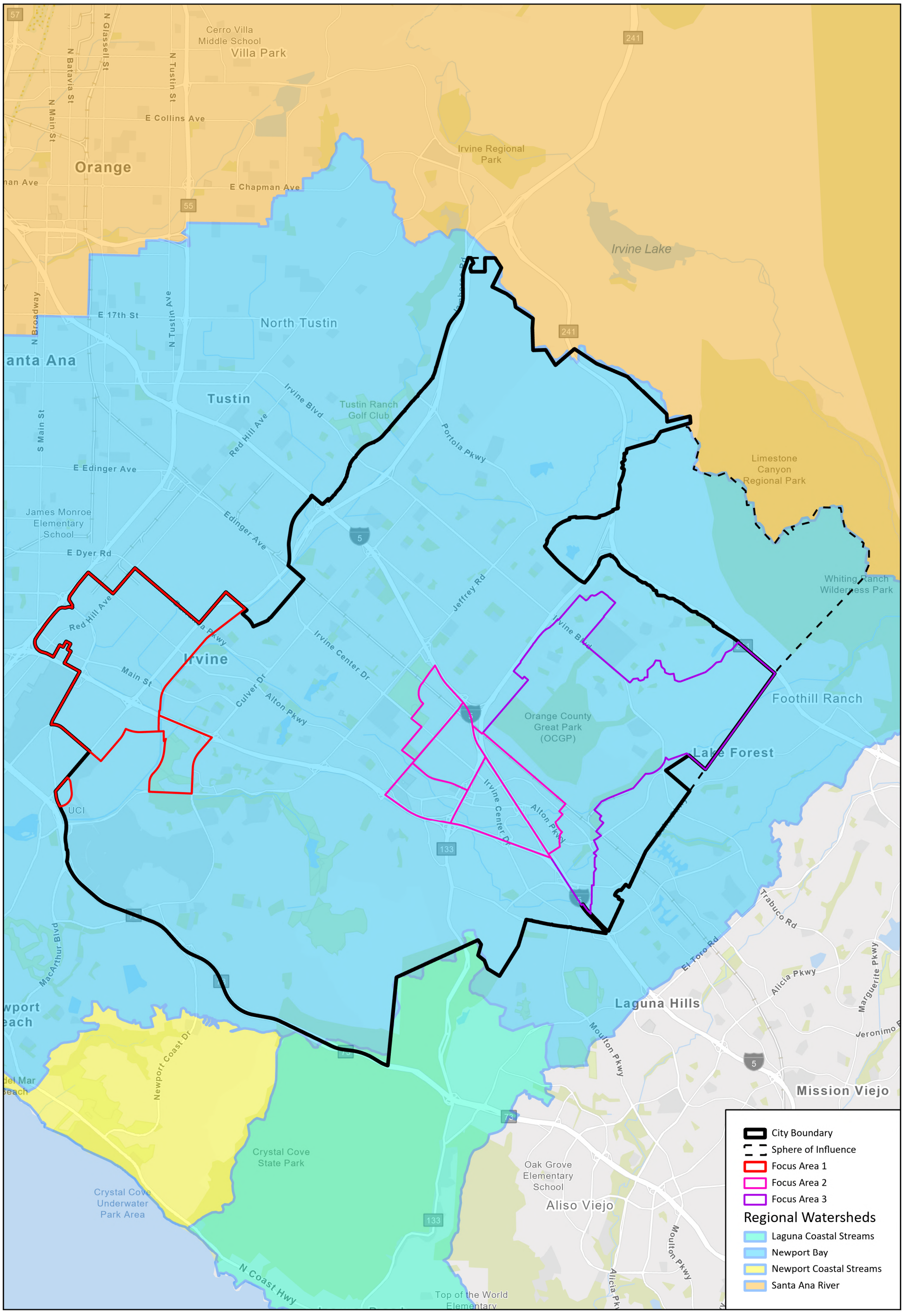
The City is located primarily within the 154-square mile Newport Bay Watershed. Newport Bay is located in the central portion of Orange County "OC", California and is defined by the foothills of the Santa Ana Mountains to the east (Loma Ridge), and the San Joaquin Hills to the west and southwest. The Newport Bay Watershed is a part of the larger Orange County Watershed Management Areas, which consist of a split into a South, North, and Central Watershed Management Areas (WMA). The total area of the Newport Bay Watershed is approximately 154 square miles (98,500 acres) of the Central Orange County (COC) WMA. The watershed is comprised of channels that ultimately deliver stormwater to Newport Bay.

WATERSHEDS

As discussed previously, the City of Irvine is located in the Newport Bay Watershed. The primary tributaries are identified below.

- Newport Bay Watershed
    - Santa Ana Delhi Channel
    - Bonita Creek
    - Borrego Creek
    - Peters Canyon Wash
    - San Diego Creek Reach 1
    - Upper Newport Bay (Ecological Reserve)

See Figure 9 below for a map of the watersheds within and surrounding the City.



City of Irvine Watersheds

Figure 9

2/29/2024

1 inch = 7,000 feet

0 7,000 14,000 Feet

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4.2 EXISTING FLOOD PLAIN MAPPING

The National Flood Insurance Act (1968) established the National Flood Insurance Program, which is based on the minimal requirements for flood plain management and is designed to minimize flood damage within Special Flood Hazard Areas. The Federal Emergency Management Agency (FEMA) is the agency that administrates the National Flood Insurance Program. Special Flood Hazard Areas (SFHA) are defined as areas that have a 1-percent chance of flooding within a given year, also referred to as the 100-year flood. Flood Insurance Rate Maps (FIRMs) were developed to identify areas of flood hazards within a community. According to the Flood Zone determination, the City has several flood designations listed as Zone A, Zone AE, Zone AH, and Zone X (shaded). These zones are described below.

See Table 15 for description of the City's flood zone designations.

Table 15 FEMA Flood Zone Designations

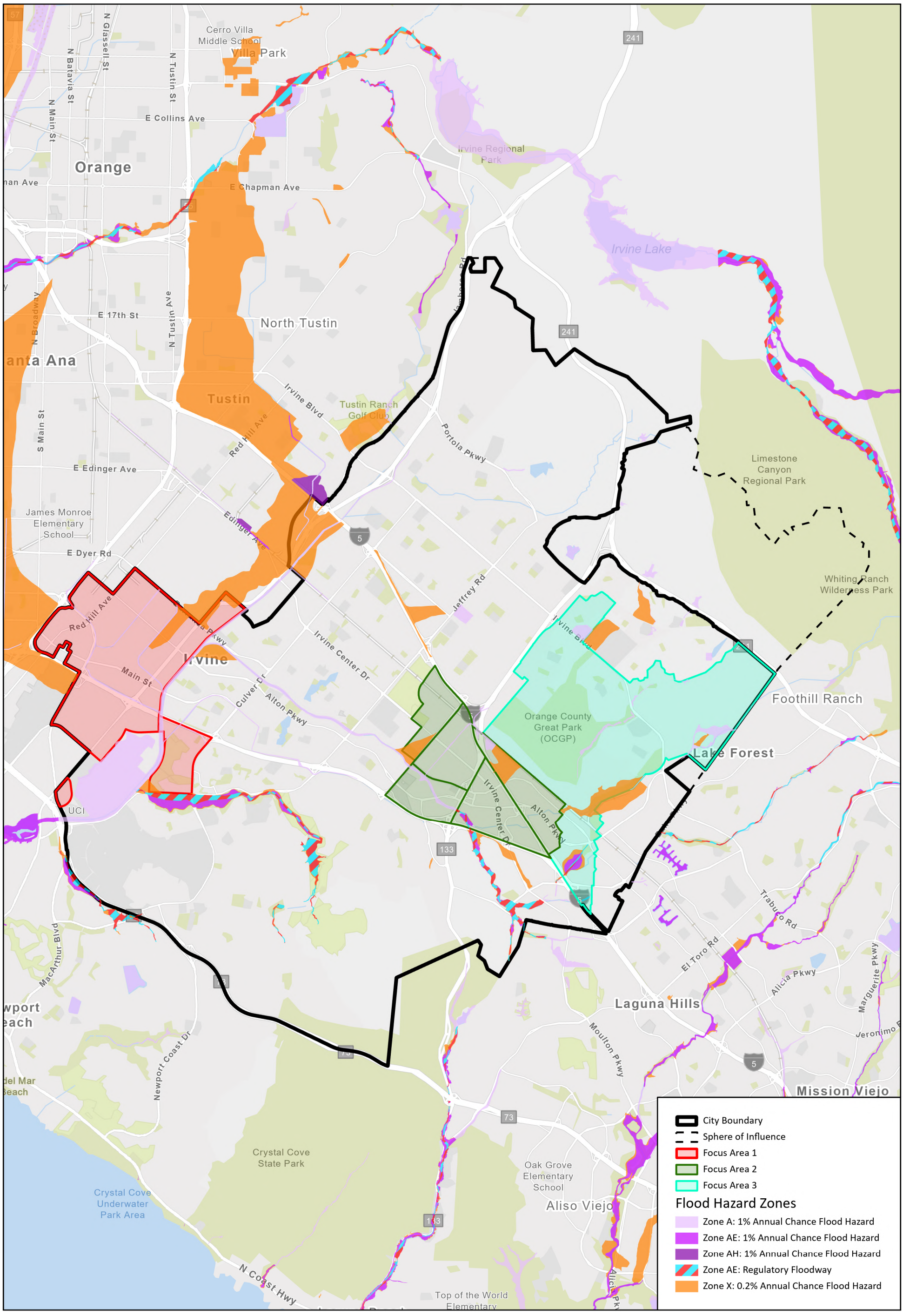
Zone Designation	Zone	Zone Description
Special Flood Hazard Area – With Base Flow Elevation or Depth	Zone A	Areas with a 1% annual chance of flooding and -a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
	Zone AE	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30 year mortgage. Base flood elevations (BFE) are provided.
	Zone AH	Areas with a base floodplain, usually in the form of a pond, with an average depth ranging from 1 to 3 ft. where elevations (BFE) and flood hazard factors are determined.
Other Areas of Flood Hazard	Zone X	Shaded: Area of 500-year flood; area subject to the 100-year flood with average depths of less than 1 foot or with contributing drainage area less than one square mile; and areas protected by levees from the base flood. Unshaded: Area determined to be outside the 500-year floodplain
Source: FEMA, Glossary. Found here: https://www.fema.gov/about/glossary.		

Any development within special flood hazard areas must follow FEMA and the City's floodplain safety requirements, including flood analysis, proper setbacks, and sufficient pad elevations. The City also has preparation measures to protect residents and limit damage and infrastructure loss. See Figure 10 for a map of the FEMA flood zones within the Irvine GPU.

City of Irvine Flood Zones

Figure 10

2/29/2024



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1 inch = 7,000 feet

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4.2.1 REGIONAL FLOOD CONTROL MASTER PLAN

Unlike many other cities in Orange County, Irvine was designed as a master planned community. The City is divided into planning areas. As each planning area was developed, they were required to implement the necessary storm drain system for the full buildout of the planning area. This was repeated for all planning areas, resulting in a well-functioning system.

The 1999 Regional Flood Control Master Plan for San Diego Creek serves as the comprehensive engineering and flood protection document for the City's regional flood control facilities. The OCFCD and Irvine use the master plan to regulate peak flow discharges and ensure that runoff is managed in accordance with the design parameters in the master plan. When the City processes major land use changes within the watershed, detailed studies and addendums to the master plan are required. The master plan is used to determine where detention and flow attenuation is required to match up with the ultimate conditions within the master plan.

Irvine contains both natural areas where stormwater can be recharged into the ground and urbanized areas that are dominated by impervious (nonporous) surfaces and other hardscapes. However, most waterways in the City are channelized for flood control purposes. Because growth in Irvine has been master planned, stormwater infrastructure has been improved incrementally as the City has grown, keeping pace as development has occurred. Deficiencies in the system are limited. Periodically, the OCPW scours the San Diego Creek channels to reduce sedimentation and ensure the proper functioning of channels.

CITY OF IRVINE STORMWATER MANAGEMENT

The City of Irvine Public Works' Maintenance Division is responsible for the maintenance and upkeep of the City's public drainage facilities. The Maintenance Division's responsibilities include the annual inspection and cleaning of all City storm drains and catch basins, erosion control of slopes along City open channels, and other City drainage facilities, cleaning of debris and clearance of drainage systems after storm events, and the prevention of standing water issues/concerns in City right-of-way areas.

STORMWATER DESIGN FOR NEW DEVELOPMENT

The City of Irvine requires new development to submit to the City for review and approval, a hydrology & hydraulics report that presents the analyses of the grading and stormwater design, along with conclusions that demonstrate that any increases in stormwater discharges will be mitigated with onsite detention systems. What is typically required is that the stormwater discharges associated with the new development do not exceed those of the existing or master-planned condition . Since much of the City is built-out with commercial, industrial, or residential development, many of the redevelopment projects may not require detention. However, sites that are currently undeveloped may require detention, to mitigate for additional discharges associated with the new development or to meet local hydromodification requirements associated with the stormwater Municipal Separate Storm Sewer System (MS4) permit.

4.3 EXISTING WATER QUALITY REGULATIONS

The City of Irvine is mandated by a federal National Pollutant Discharge Elimination System (NPDES) permit to implement Storm Water Runoff Management Programs. Unlike the sanitary sewer system, any discharge to the municipal storm drain system does not get treated and will ultimately end up in the ocean. The Storm Water Runoff Management Programs are therefore designed to protect the water quality and beneficial uses of the receiving water body, by requiring onsite water quality treatment of the stormwater prior to discharging offsite into the municipal storm drain system.

A project Water Quality Management Plan (WQMP) must be submitted for new development and significant redevelopment projects in the City of Irvine.
Project WQMPs describe how property owners/managers will comply with the post construction water quality requirements described in the City's National Pollutant Discharge Elimination System (NPDES) permit (issued by the Santa Ana Regional Water Quality Control Board), and the City's Local Implementation Plan (LIP). This project WQMP template has been designed to facilitate the expeditious review and approval of project WQMPs by the City's Building and Safety Division, and to reduce the number of revisions and re-submittals of project WQMPs before approval is granted. Project plans submitted for plan check must be consistent with the approved project WQMP, and the project WQMP must be approved prior to the issuance of building or grading permits.

The Water Quality Ordinance (No. 10-06) gives the City of Irvine adequate legal authority as may be necessary to carry out the requirements of the NPDES Permit and accomplish the requirements of the Clean Water Act.

In addition to the programs and requirements discussed above there are several state and regional regulations that focus on protecting storm water quality throughout the City and County region. They are described as follows.

COUNTY OF ORANGE MS4 PERMIT, DRAINAGE AREA MANAGEMENT PLAN (DAMP) & LOCAL IMPLEMENTATION PLANS (LIP)

In May 2009, the Santa Ana RWQCB re-issued the North Orange County MS4 Storm Water Permit as WDR Order R8-2009-0030 (NPDES Permit No. CAS618030) to the County of Orange, the incorporated cities of Orange County, and the Orange County Flood Control District within the Santa Ana Region. Pursuant to this "Fourth Term" MS4 Permit, the Co-permittees were required to update and implement a Drainage Area Management Plan (DAMP) for its jurisdiction, as well as Local Implementation Plans (LIPs), which describe the Co-permittees' urban runoff management programs for their local jurisdictions.

Under the City's LIP, land development policies pertaining to hydromodification, and low impact development (LID) are regulated for new developments and significant redevelopment projects. The term "hydromodification" refers to the changes in runoff characteristics from a watershed caused by changes in land use condition. More specifically, hydromodification refers to "the change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport." The use of LID Best Management Practices (BMPs) in project planning and design is to preserve a site's predevelopment hydrology by minimizing the loss of natural hydrologic processes such as infiltration, evapotranspiration, and runoff detention. LID BMPs try to offset these losses by introducing structural and non-structural design components that restore these water quality functions into the project's land plan. These land development requirements are detailed in the County-wide Model Water Quality Management Plan (WQMP) and Technical Guidance Document (TGD), last updated in 2013, which Cities have incorporated into their discretionary approval processes for new development and redevelopment projects.

The LID hierarchy requires new developments and re-developments to implement BMPs under the LID hierarchy as described in the TGD. The LID hierarchy requires new projects to first attempt to infiltrate if feasible, then harvest and reuse, then biofilter stormwater runoff from their project site depending on site constraints. New projects and redevelopments within the City will follow the set hierarchy of BMP selection, and more runoff throughout the City will be effectively treated as development occurs.

TOTAL MAXIMUM DAILY LOADS (TMDLS)

Once a water body has been listed as impaired on the 303(d) list, a TMDL for the constituent of concern (pollutant) must be developed for that water body. A TMDL is an estimate of the daily load of pollutants that a water body may receive from point sources, non-point sources, and natural background conditions (including an appropriate margin of safety), without exceeding its water quality standard. Those facilities and activities that are discharging into the water body, collectively, must not exceed the TMDL. In general terms, Municipal Separate Storm Sewer System (MS4) and other dischargers within each watershed are collectively responsible for meeting the required reductions and other TMDL requirements by the assigned deadline.

The Newport Bay Watershed was historically home to agricultural uses, but now contains the cities of Irvine, Tustin, Santa Ana, Costa Mesa, Lake Forest, Laguna Hills, Orange, and Newport Beach, and unincorporated areas of Orange County. Because of its historical agricultural uses and present urbanized uses, including industry and commerce, many of the waterways are impaired with various pollutants. TMDL allocations have been developed for the Newport Bay Watershed for nutrients, sediment, and toxics; there is also a fecal coliform TMDL for Newport Bay. Additional TMDL allocations are pending. Table 16 provides a list of impaired waterways in Irvine, type of contaminants causing the impairment, and estimated date for addressing the TMDL requirements[19].

Presented below in Table 16 are the 303(d) list and TMDLs for the applicable regional channels and water bodies that receive flows from the Irvine GPU area.

Table 16 List of 303(d) Impairments and TMDLs

Water Body / Channel	List of 303(d) Impairments	TMDL
Borrego Creek Reach 2	Ammonia, Indicator Bacteria	N/A
Peter Canyon Channel	Benthic Community Effects, DDT, Indicator Bacteria, Malathion, pH, Selenium, Toxaphene, Toxicity	DDT, Toxaphene
San Diego Creek Reach 1	Benthic Community Effects, DDT, Indicator Bacteria, Malathion, Nutrients, Sedimentation/Siltation, Selenium, Toxaphene, Toxicity	Newport Bay/San Diego Creek Nutrient TMDL, Newport Bay Toxics TMDL,
San Diego Creek Reach 2	Sedimentation/Siltation, Nutrients, Indicator Bacteria, Benthic Community Effects, Toxicity	N/A

Source
1. Orange County Public Works, OC Environmental Resources - Total Maximum Daily Loads. Accessed October 2023. Found here: https://ocerws.ocpublicworks.com/service-areas/oc-environmental-resources/oc-watersheds/regional-stormwater-program/north-oc-12

IRWD NATURAL TREATMENT SYSTEMS

In 1997, IRWD implemented a treatment program, by creating wetlands that use organisms, plants and soil to naturally remove bacteria, nitrogen and phosphorus from water. The wetlands at the San Joaquin Marsh and Wildlife Sanctuary in Irvine use this natural treatment process to handle urban runoff from San Diego Creek. Plants and

[19] Orange County Public Works, Drainage Area Management Plan, Appendix D - Newport Bay Watershed Chapter. February 2021. Found here: https://ocerws.ocpublicworks.com/sites/ocpwocerws/files/2021-02/Newport%20Bay%20WAP.pdf

soils in the manmade ponds take about seven to 10 days to remove nitrates and other pollutants and deliver cleaner water back into the creek before it makes its way through Upper Newport Bay to the ocean. The success of the program led to the expansion of the natural treatment system (NTS) created throughout the San Diego Creek watershed to enhance water to treat urban runoff prior to reaching the San Joaquin Marsh. There are approximately 40 smaller NTS systems currently built and operating with additional sites under consideration. Overall, the NTS program has resulted in a significant improvement in water quality for dry weather flows and smaller storm events resulting in the protection of existing receiving waters.

4.3.1 EXISTING GROUNDWATER CONDITIONS

The GPU area lies within the Orange County Groundwater Basin (OC Basin or Basin 8-1).[20] The OC Basin is the source of approximately 60 to 70 percent of the water supply for 2.3 million people. OCWD is responsible for managing the OC Basin. To maintain groundwater quality, OCWD conducts an extensive monitoring program that serves to manage the OC Basin's groundwater production, control groundwater contamination, and comply with all required laws and regulations. A network of nearly 700 wells provides OCWD a source for samples, which are tested for a variety of purposes. OCWD collects 600 to 1,700 samples each month to monitor Basin water quality. These samples are collected and tested according to approved federal and state procedures as well as industry-recognized quality assurance and control protocols.

The OC Basin also has prescribed groundwater beneficial uses and water quality objectives, which are described in greater detail in Appendix C of the Basin Plan.

GROUNDWATER QUALITY

Portions of the groundwater table beneath Irvine have high salts levels because of the natural geology and the history of agricultural use. The Irvine Desalter Project (IDP) includes five wells located near the I-5 freeway in Irvine. Salty water is pumped from these wells and sent to the IDP treatment facility. The treatment process uses reverse osmosis, decarbonation, and disinfection to make the water suitable for drinking purposes. The purified water provides 5,100 acre-feet or 1.6 billion gallons of drinking water, enough for 50,000 people per year.

The El Toro Groundwater Remediation program is designed to address trichloroethylene (TCE) in the groundwater basin beneath the former El Toro MCAS. TCE is a volatile organic compound that was used as a solvent for aircraft cleaning prior to the development of stricter environmental regulations. The IRWD, OCWD, and federal authorities are pumping water from a three-square-mile plume, treating the water, and returning the cleaned water to irrigate landscaping. This program provides 1.3 billion gallons of clean water annually.

Nitrate is one of the most common and widespread contaminants in groundwater supplies. Elevated levels of nitrate originate from fertilizer use, animal feedlots,

[20] Map of the Orange County Groundwater Basin. Found here: https://www.ocwd.com/media/3656/threelayerbasinmodelextent.pdf

wastewater disposal systems, and other sources. Plants and bacteria break down nitrate, but excess amounts can leach into groundwater. Certain portions of Irvine have nitrate levels exceeding MCLs established in state law. IRWD Wells 21 and 22 contain nitrate at levels exceeding the primary MCL of 10 mg/L and total dissolved solids concentrations above the secondary MCL. IRWD has therefore constructed a reverse osmosis treatment facility to reduce concentrations in the water to meet state water quality standards before conveying water to the potable supply distribution system.

Selenium is a naturally occurring micronutrient found in soils and groundwater in the Newport Bay Watershed. Selenium is essential for reproductive health and immune system function in humans, fish, and wildlife. However, selenium bio-accumulates in the food chain and can cause public health concerns. Prior to urban development, the Irvine Subbasin contained an area known as the Swamp of the Frogs. Runoff from local foothills over thousands of years accumulated selenium-rich deposits in the swamp. To make this region suitable for farming, drains and channels were constructed. This mobilized selenium from sediments into the shallow groundwater. Thus, the Nitrogen and Selenium Management Program was formed to develop and implement a work plan to address selenium and nitrate in the watershed to comply with the requirements of NPDES Permits issued by the Santa Ana RWQCB.

Sustainable Groundwater Management Act

The California Sustainable Groundwater Management Act ("SGMA"), a three-bill package signed into law in 2014, creates a framework for the management of groundwater sources throughout the state. Under SGMA, local agencies form Groundwater Sustainability Agencies ("GSAs") and create Groundwater Sustainability Plans (GSPs). If a GSA is not formed, special act districts, such as OCWD, can submit "Alternative Plans" to GSPs. Timelines and requirements are based upon basin priority. Under SGMA, the Orange County Groundwater Basin (Basin 8-1) is considered a medium-priority basin.

In January 2017 OCWD, the City of La Habra, and Irvine Ranch Water District submitted the Basin 8-1 Alternative Plan. The Alternative Plan incorporates the requirements of GSPs and is considered "functionally equivalent" to a GSP. The Alternative Plan analyzes existing basin conditions and demonstrates that the Basin has been operated within its sustainable yield for more than 10 years without degrading water quality, reducing storage, or lowering groundwater levels. The Alternative Plan will be updated and resubmitted every 5 years as part of SGMA requirements.

Under the Alternative Plan, four management areas have been created for the Orange County Groundwater Basin. Each of these management areas has slightly different management goals and strategies based on the government bodies that serve them. The management areas are as follows:

- ***La Habra-Brea Management Area***
  - Includes the northern portion of the Basin located outside of the OCWD service area.

- ***OCWD Management Area***
  - Includes OCWD's service area, covering approximately 89% of the Basin.

- ***South East Management Area***

- Includes the southern and southeastern portions of the Basin that are outside of OCWD's service area.

- ***Santa Ana Canyon Management Area***
  - Includes the eastern portion of the Basin outside of OCWD's service area.

As the OC Basin is a medium priority basin, details regarding sustainable groundwater basin management will be required for future projects within the Irvine GPU area that trigger Senate Bill 610 and the development of a Water Supply Assessment (WSA). Projects that require the development of a WSA include residential developments over 500 dwelling units, shopping centers having 500,000 sf or more of floor space, a hotel with more than 500 rooms, a commercial office building with 250,000 sf of floor space, an industrial land use over 40 acres of land or 650,000 sf of floor area, or a mixed-use project that includes any combination of the limits noted above.

DRINKING WATER QUALITY

The Irvine Ranch Water District strives to provide residents and business consumers with safe drinking water supplies. IRWD, OCWD, and the Metropolitan Water District of Southern California (MWD) conduct extensive testing for regulated and unregulated chemicals in their water supplies. OCWD manages the quality of the groundwater basin, MWD supplies imported treated surface water, and IRWD operates a surface water treatment plant and several ground water treatment plants.

Communities are required to adhere to stringent state regulations regarding primary and secondary drinking water standards. Primary standards are legally enforceable standards that are needed to protect public health. Secondary standards affect the color, appearance, and taste of drinking water, but are not health-related standards. Adherence to standards is measured in terms of maximum contaminant levels allowed in drinking water. Progress toward public health goals, as described below, is also required to be reported.

The EPA, the Office of Environmental Health Hazard Assessment, and the SWRCB Division of Drinking Water have set voluntary drinking water quality goals for some contaminants. The most common measure is public health goals (PHGs). Water quality goals are often set at such low levels that they are not achievable in practice and are not directly measurable. Nevertheless, these goals provide useful guideposts and direction for water management practices. IRWD strives to meet PHGs although state and federal law do not require adherence. IRWD produces an annual consumer confidence report that tracks the quality of Irvine's drinking water. IRWD continues to meet and/or exceed all primary and secondary drinking water standards that are required by state and federal law[21].

[21] Irvine Ranch Water District, Water Quality Information. Accessed October 2023. Found here: http://www.irwd.com/services/water-quality-report

4.3.2 CAPITAL IMPROVEMENT PLANS

City of Irvine, Public Drainage Program – There are three water quality improvements project currently in the City of Irvine, all occurring at the Great Park or PA 51. These CIPs are described in Table 18 and consists of improvements to the Great Parks water quality infrastructure, landscape enhancements, and utility modifications. All of these projects ensure water quality systems, irrigation components, and pond utility connections function at maximum efficiency. Table 18identifies applicable City CIP projects.

Table 17 Drainage System Capital Improvement Plans – City of Irvine

Project Name	CIP Year	Project Description
Great Park Site Utility Infrastructure (CIP: 361612)	FY 23-24 Construction Phase[1]	Modification of the utility and water quality infrastructure to enable the addition, relocation and reconnection of various utility lines and service to new backbone infrastructure.
Great Park Western Sector Water Quality Basins (CIP: 361921)	FY 23-24 Design Phase[1]	The project consists of designing the plan for rehabilitation and modification of the storm water recirculation system for the Western Sector. This plan will detail the re-engineering and installation of effective water treatment and filtration systems. Additional water fountain features have been added to the scope of work.
Great Park Water Quality Enhancements (CIP: 371804)	FY 23-24 DesignPhase[1]	Design and installation of Western Sector water quality landscape enhancements and utility modifications
Sources [1] City of Irvine, Capital Improvement Program (CIP) Map. Accessed. March 2024 Found here: https://www.cityofirvine.org/public-works-department/interactive-capital-improvement-projects-map		

OC Public Works – OC Public Works Infrastructure Programs provides engineering services for regional flood control programs, such as OCFCD, throughout Orange County. OC Public Works manages the design of the County's horizontal infrastructure, roadways, bridges, bikeways, channels, storm drains, dams, pump stations and other drainage related facilities. OC Public Works maintains a 7-year CIP list with several proposed projects within the City of Irvine which is in the design and construction phase for 2022-2023 year. See Table 18 for a summary of CIP projects lead by OC Public Works within the City and Focus Areas.[22]

Table 18 Drainage System Capital Improvement Plans – OC Public Works

Project Name	CIP Year	Project Description
NC IRWM Projects: William Mason Regional Park & UC Irvine WIPS Project	5-10 years Planning[1]	The project consists of diversion of runoff from F15P11 to natural treatment systems and then to the existing lake, diversion of Sand Canyon Channel, a storm drain line, a

[22] OCFCD 7-year Capital Improvement Program 2023-24 to 2029-30. Projects found at the link below: https://ocpw.maps.arcgis.com/apps/Shortlist/index.html?appid=1e3a74d5dcb744fb9bab39f427fb0079

		tank at the UCI Cheerleader Field, and a pump for water to the UCI Marsh.
NC IRWM Projects: NCWMA OCWD South OC Water Storage in OCWD	FY 25-26 In Design Water Supply[1]	Store additional water in the OCWD groundwater basin for use by interested south Orange County retail agencies for emergency supply.
NC IRWM Projects: Lane Channel (F08), Jamboree to Main Phase 1 OCPW	FY 23-24 In Design Flood Management[1]	This project will rehabilitate the existing dilapidated channel to pre-storm damage existing condition to convey the design discharge. Work on the channel will bring the status back to US Army Corps standings of receiving funding from PL84-99.
NC IRWM Projects: San Diego Creek Diversion/Trash Removal Project – Newport Beach	FY 23-24 Water Quality[1]	This project would mirror the Santa Ana-Delhi Channel Diversion project to (1) capture all dry weather trash and trash from a first flush storm, and (2) divert nuisance flows to OCSD for eventual use in the Groundwater Replenishment System.
NC IRWM Projects: Barranca Channel (F09), F05 Confluence to Barranca Pkwy	FY 23-24 Flood Management[1]	This project will rehabilitate the existing dilapidated channel to pre-storm damage existing condition to convey the design discharge. Work on the channel will bring the status back to US Army Corps standings of receiving funding from PL84-99.
NC IRWM Projects: Lane Channel (F08), F05 Confluence to SR-55 Freeway Phase 2	FY 26-27 In Design[1]	This project will rehabilitate the existing dilapidated channel to pre-storm damage existing condition to convey the design discharge. Work on the channel will bring the status back to US Army Corps standings of receiving funding from PL84-99.
OCPW - Santa Ana-Delhi Channel (F01)	FY 23-24[1]	The project consists of widening portions of the channel to create additional habitat area, restoring channel slopes to convey a 100-year storm event, and replacing the existing bicycle bridge to allow continued coastal access.
MIP Construction Projects: Barranca Channel (F09) MIP Repair Phase 1A	FY 23-24 Active[2]	This project will excavate the earthen slope and invert. Remove & repair existing riprap. Install new riprap. Remove & replace CAB on maintenance road.
MIP Construction Projects: Borrego Canyon Channel (F20) Concrete Repairs	FY 24-25 Future[2]	This project will install a concrete invert and implement miscellaneous concrete repairs.

Sources
[1] Source: Orange County Public Works, 7-Year Capital Improvement Program | Fiscal Years 2023-24 to 2029-30. Accessed March 2024. Found here: https://ocpw.maps.arcgis.com/apps/Shortlist/index.html?appid=1e3a74d5dcb744fb9bab39f427fb0079
[2] Source: OC Construction Projects – Capital Improvement Program (CIP) and Maintenance Improvement Program (MIP). Accessed March 2024 Found here: https://ocpw.maps.arcgis.com/apps/webappviewer/index.html?id=5bbd1fa12e7a43fa8d27a55afa83afa8

As shown above in Table 17 and Table 18, there are multiple CIP projects within the Irvine GPU area over the next ten years. These projects will improve the regional drainage infrastructure serving the GPU and its focus areas.

4.4 PROPOSED STORMWATER CONDITION AND CEQA THRESHOLD ANALYSIS

California Environmental Quality Act (CEQA) significance criteria are used to evaluate the degree of impact caused by a development project on environmental resources such as hydrology and water quality. According to Appendix G of the CEQA Guidelines[23], a project would normally have a significant effect on the environment if the project would impact any of the items listed below.

Would the Project:

A. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?
B. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
C. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

    (i) Result in a substantial erosion or siltation on- or off-site;
    (ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
    (iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    (iv) Impede or redirect flood flows?

D. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?
E. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Should the answers to these environmental factors prove to be a potentially significant impact, mitigation measures would be required to reduce those impacts to a less-than-significant threshold.

Impact A: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Impact Analysis: Construction activities within the GPU area could potentially result in soil erosion and temporary adverse impacts to surface water quality from construction materials and wastes if left unregulated or unmitigated.

[23] California Natural Resources Agency, CEQA appendix G. Found here: https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/ab52/final-approved-appendix-G.pdf

Implementation of State and Local regulations will effectively mitigate construction storm water runoff impacts from the proposed land use changes that take place during construction. Standard erosion control practices shall be implemented for all construction within the City. Additionally, construction sites over one acre will be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the Statewide Construction General Permit and subject to the oversight of the Santa Ana Regional Water Quality Control Board. The SWPPP must include BMPs to reduce or eliminate erosion and sedimentation from soil disturbing activities, as well as proper materials and waste management. Implementation of these State and Local requirements would effectively prohibit projects from violating any water quality standards or waste discharge requirements resulting from construction activities.

In terms of post-construction related impacts, the incorporation of site design, LID features and BMPs as required under the County of Orange MS4 Permit implemented by the City of Irvine are designed to protect surface waters and groundwater. The redevelopment of existing non-residential sites into the proposed higher density residential land uses will result in improvement to water quality runoff based on the implementation of water quality BMPs that likely do not exist under current conditions.

The individual development and redevelopment projects within the GPU will effectively retain or treat the 85th percentile 24-hour stormwater runoff for pollutants such as bacteria, metals, nutrients, oil & grease, organics, pesticides, sediment, trash, and oxygen demanding substances prior to discharge off their property. As properties within the City undergo redevelopment, existing properties that do not have water quality BMPs will be replaced with projects incorporating LID BMPs. Therefore, long-term surface water quality of runoff from the GPU areas would be expected to improve over existing conditions as more LID BMPs are installed and implemented. This is considered an overall benefit of the proposed land use changes associated with implementation of the GPU. Impacts to surface water and groundwater quality will be less than significant.

Impact B: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

Impact Analysis: Since groundwater is actively managed throughout the City by numerous water agencies and stakeholders, individual projects will not utilize site-specific wells for groundwater supply. All groundwater is managed through OCWD and the water retailers and planning documents such as the Urban Water Management Plans. It is also likely that through LID features, infiltration will be feasible in specific areas throughout the City and will augment groundwater recharge. Through management by the local water districts, land development and redevelopment within the City will not result in interference with groundwater recharge or management of the groundwater basin. Therefore, the impacts are expected to be less than significant.

Impact C: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

(i) Result in a substantial erosion or siltation on- or off-site;
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
(iv) Impede or redirect flood flows?

Impact Analysis: Under the existing conditions and proposed conditions, drainage patterns will largely be maintained and will utilize the existing drainage facilities within the public right of way. The majority of the development to occur through the proposed land use changes will be in-fill of vacant lots (new development) or redevelopment of existing non-residential properties into high density residential. In both circumstances, the surrounding area has already been developed and the overall drainage patterns, the primary public storm drain system and points of connection are set. Implementation of the proposed land uses will rely on the existing drainage systems to convey runoff. Current runoff is captured and conveyed by existing City or County storm drain infrastructure throughout the City before discharging to regional County flood control facilities and channels. From there, the runoff is ultimately discharged into Newport Bay. The City is primarily built-out, and no major changes in storm flows are anticipated. As noted previously, the City and the County have policies in-place that would require design and installation of detention systems to mitigate peak flows for certain development projects, and/or if downstream drainage facilities ever become deficient.

In addition, most storm drainage structures, streams, and channels that collect and convey runoff within the City are concrete-lined and not susceptible to scour or erosion. For areas that are tributary to streams that may be susceptible to scour, hydromodification requirements, as part of the regional MS4 permit, and will ensure that impacts are minimized. Overall impacts to erosion and siltation, because of GPU land use changes, are anticipated to be less than significant.

Impact D: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Impact Analysis: The majority of the City of Irvine is located outside the 100-year flood zone, and therefore potential impacts to flooding in the City are less than significant. Areas of the City within FEMA designations of Zone A, AE, or AH represent areas where there is a 1% chance of annual flood hazard. All development within these areas will require conformance with FEMA requirements along with pad elevations and setbacks to adequately protect structures from flood hazards. These requirements are typically implemented through the City, and impacts are also considered less than significant for these areas when meeting all FEMA requirements. The City is not subject to impacts

from tsunami or seiche zones, and thus risks from these hazards are not applicable.

Impact E: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Impact Analysis: New development and redevelopment within the City of Irvine does not impact implementation of local or regional water quality control plans or sustainable groundwater management plans. All development within the City will follow the Santa Ana Regional Water Quality and Control Boards MS4 permit. Groundwater levels are managed by various stakeholders, and development projects with infiltration will be reviewed for conformance with groundwater management goals. Impacts to water quality and groundwater management will be less than significant.

5. APPENDICES

Appendix A Water Demand Calculations
Appendix B Sewer Demand Calculations

APPENDIX A

WATER DEMAND CALCULATIONS

Appendix A Existing, Proposed, and Net Change in Water Demands

Planning Area	Proposed Residential (DUs)	Density/ Acre	Acres of Residential Development	City of Irvine Land Use Category	Estimated Existing Water Demand						Estimated Proposed Water Demands						Net Change (Proposed-Existing)	
					IRWD Land Use Category	IRWD Water Use Factor Converted to (GPD/Acre)			Existing Water Demand (GPD)	Existing Water	IRWD Land Use Category	IRWD Water Use Factor Converted to (GPD/Acre)			Proposed Water Demand (GPD)	Proposed Water Demand (AFY)	Net Change (GPD)	Net Change (AFY)
Focus Area 1 – Greater Irvine Business Complex Area																		
19 (Rancho San Joaquin)	2,202 DUs	50 DUs/ Acre	44 Acres	IBC Multi-Use	Light Industrial	70 GPD/ KSF	43,560 SF/ Acre	3,049 GPD/ Acre	134,287 GPD	150 AFY	High Rise Density - Irvine	125 GPD/ DU	50 DU/ Acre	6,250 GPD/ Acre	275,250 GPD	308 AFY	140,963 GPD	158 AFY
36 (Irvine Business Complex)	12,798 DUs		256 Acres						780,473 GPD	874 AFY					1,599,750 GPD	1,792 AFY	819,277 GPD	918 AFY
Focus Area 2 – Greater Spectrum Area																		
12 (Oak Creek)	4,907 DUs	50 DUs/ Acre	98 Acres	General Industrial & Medical and Science	Industrial - Light & Regional Commercial	70 GPD/ KSF	43,560 SF/ Acre	4,574 GPD/ Acre	448,873 GPD	503 AFY	High Rise Density - Irvine	125 GPD/ DU	50 DU/ Acre	6,250 GPD/ Acre	613,375 GPD	687 AFY	164,502 GPD	184 AFY
31 (Irvine Spectrum 6)	2,934 DUs		59 Acres						268,391 GPD	301 AFY					366,750 GPD	411 AFY	98,359 GPD	110 AFY
32 (Irvine Spectrum 3)	17,817 DUs		356 Acres			140 GPD/ KSF			1,629,828 GPD	1,826 AFY					2,227,125 GPD	2,495 AFY	597,297 GPD	669 AFY
33 (Irvine Spectrum Center)	949 DUs		19 Acres						86,811 GPD	97 AFY					118,625 GPD	133 AFY	31,814 GPD	36 AFY
Focus Area 3 – Great Park Neighborhood Transit Village																		
51 (Great Park)	5252 DUs	50 DUs/ Acre	105 Acres	Trails and Transit Oriented Development	Regional Commercial	140 GPD/ KSF	43,560 SF/ Acre	6,098 GPD/ Acre	640,576 GPD	718 AFY	High Rise Density - Irvine	125 GPD/ DU	50 DU/ Acre	6,250 GPD/ Acre	656,500 GPD	735 AFY	15,924 GPD	18 AFY
TOTAL	**46,859 DUs**		**937 Acres**		**ESTIMATED EXISTING WATER DEMAND**				**3,989,238 GPD**	**4,469 AFY**	**ESTIMATED PROPOSED WATER DEMAND**				**5,857,375 GPD**	**6,561 AFY**	**1,868,137 GPD**	**2,093 AFY**

NOTES

*The City's GPU calls for up to 57,656 DUs, the number of DUs represented in this table only reflect 46,859 DUs or 81% of the proposed units. The remaining DUs are spread throughout the City and are represented in varying PAs. Seeing that the Focus Areas account for a majority of the proposed growth the comparison between existing and proposed water demands is limited to these areas that have the potential for more intensive residential growth.

NOTES

Light Industrial water use = 70 gpd/ksf = (0.70 gpd/sf)(43560 sf/acre) = 3,049 GPD/Acre

The average of industrial light and regional commercial water use is (70+140)/2 = 105 gpd/ksf / 1000 = (0.105 gpd/sf)(43560 sf/acre) = 4,574 GPD/Acre

Regional commercial water use = 140 gpd/ksf / 1000 = (0.140 gpd/sf)(43560 sf/acre) = 6,098 GPD/Acre

NOTES

It is assumed that there are 50 DUs/ acre, and water use for this density is represented by IRWDs water use factor for high rise density which estimates 125 GPD/DU. Converting 125 GPD/DU to acres is the following 125 GPD/DU 50 DUs/Acre = 6250 GPD/Acre

NOTES

APPENDIX B

SEWER FLOW CALCULATIONS

Appendix B Existing, Proposed, and Net Change in Sewer Flows

Planning Area	Proposed Residential (DUs)	Density/ Acre	Acres of Residential Development	City of Irvine Land Use Category	Estimated Existing Sewer Flows						Estimated Proposed Sewer Flows						Net Change (Proposed-Existing)	
					IRWD Land Use Category	IRWD Sewer Flow Factor Converted to (GPD/Acre)				Existing Sewer Flows (GPD)	Existing Sewer Flows (AFY)	IRWD Land Use Category	IRWD Sewer Flow Factor Converted to (GPD/Acre)			Proposed Sewer Flows (GPD)	Proposed Sewer Flows (AFY)	Net Change (GPD)	Net Change (AFY)
Focus Area 1 – Greater Irvine Business Complex Area																			
19 (Rancho San Joaquin)	2,202 DUs	50 DUs/ Acre	44 Acres	IBC Multi-Use	Light Industrial	60 GPD/ KSF	43,560 SF/ Acre	2,614 GPD/ Acre		115,103 GPD	129 AFY	High Rise Density - Irvine	120 GPD/ DU	50 DU/ Acre	6,000 GPD/ Acre	264,240 GPD	296 AFY	149,137 GPD	167 AFY
36 (Irvine Business Complex)	12,798 DUs		256 Acres							668,977 GPD	749 AFY					1,535,760 GPD	1,720 AFY	866,783 GPD	971 AFY
Focus Area 2 – Greater Spectrum Area																			
12 (Oak Creek)	4,907 DUs	50 DUs/ Acre	98 Acres	General Industrial & Medical and Science	Industrial - Light & Regional Commercial	60 GPD/ KSF	43,560 SF/ Acre	4,138 GPD/ Acre		406,123 GPD	455 AFY	High Rise Density - Irvine	120 GPD/ DU	50 DU/ Acre	6,000 GPD/ Acre	588,840 GPD	660 AFY	182,717 GPD	205 AFY
31 (Irvine Spectrum 6)	2,934 DUs		59 Acres							242,830 GPD	272 AFY					352,080 GPD	394 AFY	109,250 GPD	122 AFY
32 (Irvine Spectrum 3)	17,817 DUs		356 Acres			130 GPD/ KSF				1,474,606 GPD	1,652 AFY					2,138,040 GPD	2,395 AFY	663,434 GPD	743 AFY
33 (Irvine Spectrum Center)	949 DUs		19 Acres							78,543 GPD	88 AFY					113,880 GPD	128 AFY	35,337 GPD	40 AFY
Focus Area 3 – Great Park Neighborhood Transit Village																			
51 (Great Park)	5252 DUs	50 DUs/ Acre	105 Acres	Trails and Transit Oriented Development	Regional Commercial	130 GPD/ KSF	43,560 SF/ Acre	5,663 GPD/ Acre		594,821 GPD	666 AFY	High Rise Density - Irvine	120 GPD/ DU	50 DU/ Acre	6,000 GPD/ Acre	630,240 GPD	706 AFY	35,419 GPD	40 AFY
TOTAL	**46,859 DUs**		**937 Acres**						**ESTIMATED EXISTING WATER DEMAND**	**3,581,002 GPD**	**4,011 AFY**				**ESTIMATED PROPOSED WATER DEMAND**	**5,623,080 GPD**	**6,299 AFY**	**2,042,078 GPD**	**2,287 AFY**

NOTES

*The City's GPU calls for up to 57,656 DUs, the number of DUs represented in this table only reflect 46,859 DUs or 81% of the proposed units. The remaining DUs are spread throughout the City and are represented in varying PAs. Seeing that the Focus Areas account for a majority of the proposed growth the comparison between existing and proposed water demands is limited to these areas that have the potential for more intensive residential growth.

NOTES

Light Industrial sewer flows = 60 gpd/ksf = (0.60 gpd/sf)(43560 sf/acre) = 2,614 GPD/Acre

The average of industrial light and regional commercial Sewer Flows is (60+130)/2 = 95 gpd/ksf / 1000 = (0.095 gpd/sf)(43560 sf/acre) = 4,138 GPD/Acre

Regional commercial water use = 130 gpd/ksf / 1000 = (0.130 gpd/sf)(43560 sf/acre) = 5,663 GPD/Acre

NOTES

It is assumed that there are 50 DUs/ acre, and sewer flows for this density is represented by IRWDs Sewer Flows factor for high rise density which estimates 120 GPD/DU. Converting 120 GPD/DU to acres is the following 120 GPD/DU 50 DUs/Acre = 6,000 GPD/Acre

NOTES